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The Sale of Human Body Parts

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NOTES

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The limited but encouraging success of clinical organ and tissue transplants—the implanting in a human of an organ or tissue from another area of the recipient's body, from another human, or from an animal—indicates the potential for using such procedures as routine medical treatment. However, the scarcity of organs and tissues impedes progress in the area. Suggested solutions to the problem of providing body parts have included schemes based on donation, compulsory cadaver appropriation, and presumed consent. An alternative that is often either overlooked or summarily rejected is a market in which individuals could sell body parts of themselves or others.

Section I of this Note briefly surveys the state of the transplant art; section II outlines the inadequacy of the present human parts supply system; section III discusses some of the alternatives advanced as solutions to the shortage; section IV discusses the market system alternative; section V considers existing legal doctrines that may impede the establishment of such a system; and section VI reviews tort and tax law problems associated with the market concept.

I. The Transplant Art

Human body parts are useful in many contexts. Traditionally, cadavers serve instructional purposes in medical schools and are sought by museums for display.[1] More recently, human body parts have become essential for medical research.[2] Organ and tissue transplants, however, present the most recent and most dramatic need for human body parts.

The progress that is being made in allotransplantation—transplantation involving a donor and a recipient that are genetically dissimilar but of the same species[3]—indicates the breadth of the

1. *See* N.Y. Times, May 28, 1972, § 1A (Brooklyn, Queens, Long Island Magazine), at 4, col. 4 (late city ed.).

2. *See* text accompanying note 13 *infra*.

3. The terminology of tissue transplantation has been the subject of some debate. There is a well-supported movement to alter the terminology to make it etymologically correct and consistent with established immunological terms. *See* Medawar, *Opening Remarks*, in CIBA Foundation Symposium on Transplantation 1, 2 (G. Wolstenholme & M. Carmeron ed. 1962); Snell, *Terminology of Tissue Transplantation*, 2 Transplantation 655 (1964). However, the older terminology continues to appear in current literature. *See, e.g.*, Wasmuth & Stewart, *Medical and Legal Aspects of Human Organ Transplantation*, 14 Clev.-Mar. L. Rev. 442, 443 (1965). The transplantation of body parts or substances can be attempted when the donor is also the recipient; this is presently called autotransplantation or autograft (the old terminology is identical). P. Russell & A. Monaco, The Biology of Tissue Transplantation 4 (1965). Transplantation can also be attempted between individuals identical in histocompatibility antigens (that is, identical twins)—isotransplantation or isograft (the old terminology

transplantation science. Transplants of the cornea,[4] the kidney,[5] and the heart[6] have become well accepted. Allografts of the liver,[7] the lung,[8] bone marrow,[9] the pancreas,[10] the endocrine glands,[11] and

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is identical). *Id.* Histocompatibility antigens attach to cells and are capable of provoking an immune response, if recognized as foreign. *Id.* at 113. For a definition of antigen and immune response, see text accompanying notes 149-50 *infra*. Finally, transplantation can be attempted between genetically dissimilar members of the same species (for example, between two unrelated individuals)—allotransplantation or allograft (homotransplantation or homograft in the old terminology)—and between species—xenotransplantation or xenograft (heterotransplantation or heterograft in the old terminology). P. RUSSELL & A. MONACO, *supra*, at 4.

4. The first successful corneal graft in man that remained clear is attributed to Dr. F. Zirm, who in 1905 grafted the cornea of a boy into a man whose eyes had sustained lime burns. P. TREVOR-ROPER, CORNEAL GRAFTING 5 (1972).

5. The kidney was transplanted with limited success in 1947, when a kidney was attached to a patient's arm and functioned well enough to enable her to recover from a reversible form of severe kidney failure, Dunphy, *The Story of Organ Transplantation*, 21 HASTINGS L.J. 67, 68-69 (1969), and in 1954, when the first successful isotransplantation was accomplished at Peter Bent Brigham Hospital in Boston. *Id.* The development of more sophisticated immunosuppressive drugs led to a continuing expansion of kidney transplant procedure, and the operation has evolved into a widely practiced form of corrective surgery. *The 11th Report of the Human Renal Transplant Registry*, 226 J.A.M.A. 1197 (1973), includes reports of 12,389 renal transplants from 1951 through 1972. Follow-up information on 10,357 of the cases reported indicated that, of the patients that received a renal graft, 47.6 per cent were alive with graft function, 18.2 per cent were alive without graft function, and 34.2 per cent were deceased. *Id.* at 1197.

6. The first modern human heart transplant was undertaken in January of 1964. Griepp, Stinson & Shumway, *Heart*, in TRANSPLANTATION 531, 535 (J. Najarian & R. Simmons ed. 1972). The recipient was a 68-year-old man with severe heart disease; the donor was an adult chimpanzee. Attempts at resuscitation were discontinued one hour after the removal of the bypass catheters. *Id.* By January 1, 1973, 202 human heart transplants had been undertaken globally; 26 recipients were still alive. *ACS/NIH Organ Transplant Registry: Third Scientific Report*, 226 J.A.M.A. 1211, 1213 (table 1) (1973) [hereinafter *Report*]. The difficulty of performing a successful heart transplant has dampened enthusiasm for the procedure. *See, e.g.*, N.Y. Times, Aug. 22, 1971, § 4, at 7, col. 1 (late city ed.).

7. Six liver transplants were attempted in 1963, but none was successful. F. MOORE, TRANSPLANTS: THE GIVE AND TAKE OF TISSUE TRANSPLANTS 249 (1972). By January 1, 1973, transplantation of the liver had been attempted 182 times. Of these, one patient was alive more than four years after allotransplantation, and two patients were alive over three years after the operation. Fourteen patients had lived for more than one year; six for more than two; four for more than three; and one for more than four. *Report, supra* note 6, at 1214-15. Transplantation can be performed to alleviate the systems of at least three diseases: cancer of the liver, cirrhosis of the liver, and congenital absence of the bile ducts. *See* F. MOORE, *supra*, at 241.

8. The first allotransplantation of the human lung was performed by Dr. J. Hardy and his associates in 1963. Hardy, Webb, Dalton & Walker, *Lung Homotransplantation in Man*, 186 J.A.M.A. 1065 (1963). Thirty-one other lung transplants had been performed by January 1, 1973. Only three recipients had survived for more than thirty days with the graft functioning. The longest survival had been for ten months. *Report, supra* note 6, at 1215.

9. Bone marrow grafts have been performed in a number of research centers in the past few years. Between January 1, 1968 and April 1, 1973, 27 transplant teams reported on 181 bone marrow allografts, *Report, supra* note 6, at 1212-14; 37 of the patients were living as of April 1, 1973. *Id.* The median survival time for the

bits of small intestine[12] are being experimentally tested in human recipients. Research with animal subjects and scattered human subjects is also being undertaken on the allotransplantation of the pituitary glands, the thyroid gland, the parathyroid gland, the gonads, and most other major body tissues.[13] Furthermore, the use of transplant procedures is expanding rapidly; the most significant advances in human allografts have come within the past fifteen years.[14] Virtually every part of the human body is now, or will soon be, reusable.

II. The Present Supply System

A. *The Cadaver Source*

Vital organs, such as the heart, the liver, and the lungs, can be obtained only from cadavers; any attempt to procure them from living sources would run afoul of state and federal suicide and homicide laws.[15] The removal of nonvital parts—one kidney, small pieces of skin, and bone marrow, for example—may give rise to questions of coerced consent and criminal mayhem,[16] apart from a risk that the health of the donor will be seriously impaired.[17] Thus, the cadaver source is clearly preferable, and of great importance. For example, cadavers were the source of kidneys for 63.4 per cent of the renal grafts reported to the Human Renal Transplant Registry for the period between 1951 and 1972,[18] and recently there has been a decrease in the proportion of living donors.[19]

The common law provided no irrevocable procedure for donating cadavers for medical use.[20] Anatomical gifts in wills were not

181 patients was 70 to 75 days. *Id.* at 1215 (table 4). Optimistic forecasts are supplemented by the increasing frequency and success of the procedure. *Id.* at 1212-14.

10. Thirty-two pancreas transplants have been attempted. As of December 3, 1973, one patient had survived 14 months and another 20 months after the grafting. *Report, supra* note 6, at 1216.

11. Allotransplants of the endocrine glands have met with little success. Gittes, *Endocrine Tissues,* in Transplantation, *supra* note 6, at 698.

12. There were five reported intestinal allotransplantations as of 1972. Ruiz, Uchida & Lillehei, *Intestine,* in Transplantation, *supra* note 6, at 646, 651. Graft survival periods of up to two months were noted. *Id.* at 653.

13. *See* F. Moore, *supra* note 7, at 290-306. *See generally* Human Organ Support and Replacement (J. Hardy ed. 1971); Human Transplantation (F. Rapaport & J. Dausset ed. 1968); Transplantation, *supra* note 6.

14. F. Moore, *supra* note 7, at 130-35.

15. *See* text accompanying notes 365-67 *infra.*

16. *See* text accompanying notes 371-90 *infra.*

17. *See* note 73 *infra.*

18. *The 11th Report of the Human Renal Transplant Registry, supra* note 5, at 1198-99.

19. *See id.* at 1198-99; *The Tenth Report of the Human Renal Transplant Registry,* 221 J.A.M.A. 1495, 1498 (1972); *The Ninth Report of the Human Renal Transplant Registry,* 220 J.A.M.A. 253, 256 (1972).

20. *See* text accompanying notes 435, 439-40, 461-76 *infra.*

considered to be final testamentary dispositions and, in some circumstances, could be defeated by the surviving spouse or a close relative. Donations by the next of kin, who have the right to bury the body, were undoubtedly inhibited by legal uncertainty.[21]

The increasing need for human tissues and body parts[22] for transplantation, experimentation, and education, coupled with a demonstrated public willingness to donate cadaver parts,[23] led many state legislatures to enact donation statutes in the 1950's and early 1960's. By 1968, a great majority of American jurisdictions had promulgated anatomical donation legislation.[24] Although these statutes were a major advance from the common law, they varied in content and coverage.[25] The statutes were often inadequately drafted[26] and state-to-state variations[27] created uncertainty regarding gift authorizations

21. For the common law of cadaver dispositions and the rights of the next of kin, see text accompanying notes 391-430, 461-68 *infra*. *See generally*, Comment, *The Law of Dead Bodies—Impeding Medical Progress*, 19 OHIO ST. L.J. 455 (1958); Note, *The Law of Testamentary Disposition—A Legal Barrier to Medical Advance!*, 30 TEMPLE L.Q. 40 (1956); Note, *Donation of Dead Bodies and Parts Thereof for Medical Use*, 21 U. PITT. L. REV. 523 (1960).

22. *See* section IIC *infra*.

23. *See* N.Y. Times, Jan. 17, 1968, § 1, at 18, col. 4 (late city ed.). A Gallup poll indicated that 70 per cent of those surveyed would be willing to donate their bodies.

24. *E.g.*, Law of May 1, 1947, ch. 125, § 1, [1947] Cal. Stat. 646, *amended by* Law of Aug. 1, 1966, ch. 926, § 1, [1968] Cal. Stat. 1759; Law of Sept. 11, 1957, ch. 933, § 1, [1957] Cal. Stat. 2144 (both repealed 1968); Law of July 10, 1959, §§ 1-2, [1959] Ill. Laws 799 (repealed 1969); No. 82, [1958] Mich. Acts 89 (repealed 1969); Law of April 28, 1960, ch. 916, §§ 1-2, [1960] N.Y. Laws 2306 (repealed 1970); Act No. 591, §§ 1-3, [1959] Pa. Laws 1617 (repealed 1969).

25. *See generally* Louisell, *The Procurement of Organs for Transplantation*, 64 NW. U. L. REV. 607 (1970); Richards, *Medical-Legal Problems of Organ Transplantation*, 21 HASTINGS L.J. 77 (1969); Sideman & Rosenfeld, *Legal Aspects of Tissue Donations from Cadavers*, 21 SYRACUSE L. REV. 825 (1970); Stason, *The Uniform Anatomical Gift Act*, 23 BUS. LAW. 919 (1968).

26. The gift must be finalized immediately after the death of the organ donor, *see* section IVB *infra*, and thus the formality and the rigidity of testamentary disposition must be sacrificed in favor of convenience and swiftness. Dukeminier, *Supplying Organs for Transplantation*, 68 MICH. L. REV. 811, 825 (1970). Most of the statutes failed to recognize these complexities; they had one or more of the following shortcomings: failure to deal adequately with conflicts between surviving relatives, *e.g.*, Act No. 37, §§ 1-3, [1949] Ala. Acts 61 (repealed 1969); Act No. 283, §§ 1-3 [1949] Ark. Acts 849 (repealed 1969); Law of March 21, 1949, ch. 160, § 1, [1949] Minn. Laws 326 (repealed 1969); inadequate protection of a physician operating under an apparently valid gift instrument, *e.g.*, Law of March 24, 1955, ch. 99, § 8, [1955] Iowa Acts [56 G.A.] 118 (repealed 1969); Law of May 14, 1965, ch. 97, § 1, [1965] R.I. Acts 358 (repealed 1969); Law of March 31, 1964, ch. 582, §§ 1-2, [1964] Va. Acts 856 (repealed 1970); cumbersome filing and delivery requirements, Act No. 37, §§ 1-3, [1949] Ala. Acts 61 (repealed 1969); Act No. 283, §§ 1-3, [1949] Ark. Acts (repealed 1969); Act No. 96, [1963] S.C. Acts 92 (repealed 1969).

27. Their provisions differed as to: competency of the persons authorized to consent to an organ or tissue donation, *compare, e.g.*, No. 37, § 1, [1949] Ala. Acts 61 (repealed 1969), *with* Law of Feb. 27, 1954, ch. 6, § 1, [1954] Ariz. Laws 7 (repealed 1970); right of survivors to make a gift of organs from a dead body in their possession, *compare, e.g.*, Law of March 8, 1961, ch. 90, § 3, [1961] Wash. Laws 1562 (repealed 1969) *with* Law of Feb. 27, 1954, ch. 6 [1954] Ariz. Laws 7-9 (repealed 1970); permissible

executed in other states.[28] As a result, this framework proved inadequate to encourage and provide guidelines for anatomical donations.[29]

Responding to the continuing need, a subcommittee of the Commissioners on Uniform State Laws[30] drafted a model act designed to provide a favorable legal setting for the donation and use of human cadaver parts.[31] Under the Uniform Act "any individual of sound mind and 18 years of age or more"[32] may donate all or part of his cadaver to any hospital, surgeon, physician, accredited medical or dental school, college or university, organ bank or storage facility, or specified individual[33] for use in education, research, the advancement of medical or dental science, therapy, or transplantation.[34]

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donees, *compare, e.g.*, No. 37, § 1, [1949] Ala. Acts 61 (repealed 1969), *with* No. 96, § 1, [1963] S.C. Acts 92 (repealed 1969); purposes for which the gifts could be made, *compare, e.g.*, No. 37, § 1, [1949] Ala. Acts 61 (repealed 1969), *with* Law of March 8, 1961, ch. 90, §§ 2, 4, [1961] Wash. Laws 1561-63 (repealed 1969); the degree of formality required to validate consent, *compare, e.g.*, No. 96, § 2, [1963] S.C. Acts 92 (repealed 1969), *with* Law of Feb. 27, 1954, ch. 6, § 1, [1954] Ariz. Laws 7 (repealed 1970); requirements for filing and/or delivery of the gift instrument, *compare, e.g.*, No. 37, § 1, [1949] Ala. Acts 61 (repealed 1969), *with* Law of March 8, 1961, ch. 90, § 2, [1961] Wash. Laws 1561-62 (repealed 1969); requirements for revocation, *compare, e.g.*, No. 37, § 2, [1949] Ala. Acts 61 (repealed 1969), *with* Law of March 8, 1961, ch. 90, § 2, [1961] Wash. Laws 1562 (repealed 1969); and protection afforded physicians acting in good faith under an invalid gift instrument, *compare, e.g.*, Law of Feb. 27, 1954, ch. 6, § 5, [1954] Ariz. Laws 8 (repealed 1970), *with* Law of March 8, 1961, ch. 90, § 5, [1961] Wash. Laws 1563 (repealed 1969).

28. There was an unresolved question of which state law would apply to determine control of the body when the gift is validly executed in one state but the donor dies in a state with different execution requirements. Also, a gift in one state may not protect a surgeon from civil and criminal liability for the mishandling of a dead body in another state. *See generally* Comment, *Legal Problems in Donations of Human Tissues to Medical Science*, 21 VAND. L. REV. 353, 366-68 (1969).

29. *See, e.g.*, Holland v. Metalious, 105 N.H. 290, 293, 198 A.2d 654, 656 (1964) ("[E]xisting 'anatomical' statutes . . . are inadequate, and the need for appropriate statutory provision to implement the desires of the dying to aid the living is increasingly urgent."); HANDBOOK OF THE NATIONAL CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS 183 (1968) [hereinafter HANDBOOK].

30. HANDBOOK OF THE NATIONAL CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS 111 (1965) (subcommittee appointed to "study and report on the subject matter of a Uniform Gifts of Human Tissue Act").

31. Predictably, the Commissioners found "both the common law and the present [sic] statutory picture . . . one of confusion, diversity, and inadequacy," HANDBOOK, *supra* note 29, at 183, and formulated the Uniform Anatomical Gift Act. *Id.* at 185-93. The Act was approved by the National Conference of Commissioners on Uniform State Laws in July of 1968, *id.* at 116-17, and was promptly endorsed by the American Bar Association and the Medical-Legal Liason Committee of the American Medical Association. Richards, *supra* note 25, at 94.

32. UNIFORM ANATOMICAL GIFT ACT § 2(a).

33. UNIFORM ANATOMICAL GIFT ACT § 3.

34. UNIFORM ANATOMICAL GIFT ACT § 3. The purposes allowed depend on the classification of the donee. For example, an accredited medical school cannot be the donee of an organ intended for transplant. UNIFORM ANATOMICAL GIFT ACT § 3.

If the donor fails to specify a donee, or if the specified donee is unavailable to accept the gift, a physician attending at the donor's death may accept the gift if the

The gift may be made by will, in which case it becomes effective upon the death of the donor and is not subject to probate,[35] or by a written document signed by the donor and attested by two witnesses.[36] No delivery or filing of the document is necessary.[37] However, if the gift instrument has been delivered to the donee, the donor can revoke the gift only by (1) a signed statement of revocation delivered to the donee,[38] (2) an oral statement of revocation made before two witnesses and communicated to the donee,[39] (3) a deathbed statement made to an attending physician and communicated to the donee,[40] or (4) a signed revocation found on the donor's person or among his effects.[41] If delivery has not been made to the specified donee, the donor may also revoke by "destruction, cancellation, or mutilation of the document and all its copies."[42] A gift by will can be revoked in the manner provided by probate law, in addition to the procedures outlined above.

In the absence of "actual notice of contrary indications by the decedent," certain other individuals can donate all or any part of the decedent's body for the purposes and to the donees specified in the Act.[43] A priority ranking is established among the next of kin to determine who has the right to donate.[44]

The Act includes devices that protect donees acting under a gift instrument by allowing them to act promptly on their actual knowledge of the circumstances at the time of the death of the donor.[45]

donor has complied with all of the Act's consent requirements and has not expressly indicated wishes to the contrary. UNIFORM ANATOMICAL GIFT ACT § 4(c). The donee physician may not be a member of the transplanting team of doctors. UNIFORM ANATOMICAL GIFT ACT § 4(c).

35. UNIFORM ANATOMICAL GIFT ACT § 4(a).

36. UNIFORM ANATOMICAL GIFT ACT § 4(b). The comments to the section urge that the document be in the form of a card carried on the person of the donor. A sample card is printed in UNIFORM ANATOMICAL GIFT ACT § 4, comment.

37. UNIFORM ANATOMICAL GIFT ACT § 4(b).

38. UNIFORM ANATOMICAL GIFT ACT § 6(a)(1).

39. UNIFORM ANATOMICAL GIFT ACT § 6(a)(2).

40. UNIFORM ANATOMICAL GIFT ACT § 6(a)(3).

41. UNIFORM ANATOMICAL GIFT ACT § 6(a)(4).

42. UNIFORM ANATOMICAL GIFT ACT § 6(b).

43. UNIFORM ANATOMICAL GIFT ACT § 2(b).

44. First priority is given the spouse; second an adult son or daughter; third either parent; fourth an adult brother or sister; fifth a guardian of the decedent at the time of his death; sixth "any other person authorized or under obligation to dispose of the body." UNIFORM ANATOMICAL GIFT ACT § 2(b).

45. A surviving relative may donate the decedent's parts if he has no actual notice of the contrary indications of the decedent or a relative in his priority ranking or higher and no member of a prior class is available at the time of death. UNIFORM ANATOMICAL GIFT ACT § 2(b). A physician may accept the gift if the specified donor is unavailable, or if there is no specified donor, in the absence of any expressed indication that the donor desired otherwise. UNIFORM ANATOMICAL GIFT ACT § 4(c). Revocation of a delivered gift instrument is only effective if "communicated" or delivered to

Thus, any hesitancy that may have been caused by the strict requirements of the older statutes[46] is eliminated. Also, section 7(c) provides a blanket protection: "A person who acts in good faith in accord with the terms of this Act or with the anatomical gift laws of another state (or a foreign country) is not liable for damages in any civil action or subject to prosecution in any criminal proceeding for his act."

The Uniform Act met with immediate acceptance.[47] Three states adopted the second tentative draft in 1968,[48] thus acting even before the final draft had been approved by the National Conference. Within fourteen months of its approval in July 1968, twenty-four states had adopted some form of the Act or had passed legislation clearly reflecting its influence.[49] At present, all fifty states and the District of Columbia have substantially adopted the Uniform Act.[50]

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the donee, or found on the decedent or in his personal effects at death. UNIFORM ANATOMICAL GIFT ACT § 6(a). A donee may accept any gift unless he has actual notice of the decedent's objection (or the objection of a surviving relative on a ranking higher or equal to the donor). UNIFORM ANATOMICAL GIFT ACT § 2(c). If the gift is made by will, it is effective immediately upon the death of the decedent, even if the will is invalidated by probate, "to the extent that [the gift] has been acted upon in good faith . . . ." UNIFORM ANATOMICAL GIFT ACT § 4(a).

46. *See* Louisell, *supra* note 25, at 610-19.

47. However, critics have argued that it is overly protective of physicians and donees and abrogates the donor's right to a decent burial. *See* Groll & Kerwin, *The Uniform Anatomical Gift Act: Is the Right to a Decent Burial Obsolete?*, 2 LOYOLA U. L.J. 275 (1971); Lear, *A Realistic Look at Heart Transplants*, SATURDAY REV., Feb. 3, 1968, at 53, 58-59.

48. Law of Aug. 1, 1968, ch. 926, § 4, [1968] Cal. Stat. 1759 (repealed 1970 by adoption of the final draft); Law of March 10, 1968, ch. 63, [1968] Kan. Laws 150 (repealed 1969 by adoption of the final draft); Law of May 7, 1968, ch. 467, [1968] Md. Laws 850 (amended 1969 by adoption of the final draft). For a discussion of the first California statute, see Comment, *California's Response to the Problems of Procuring Human Remains for Transplantation*, 57 CALIF. L. REV. 671 (1969). *See also* Smith & Smith, *Kansas and the Uniform Anatomical Gift Act*, 19 KANSAS L. REV. 569 (1971).

49. *See* Louisell, *supra* note 25, at 625.

50. ALA. CODE tit. 22, §§ 184(4)-(11) (Supp. 1971); ALAS. STAT. §§ 13.50.010-.090 (1972); ARIZ. REV. STAT. ANN. §§ 36-841 to -848 (Supp. 1973); ARK. STAT. ANN. §§ 82-410.4 to -410.13 (Supp. 1973); CAL. HEALTH & SAFETY CODE §§ 7150-58 (West 1970); COLO. REV. STAT. ANN. §§ 91-9-1 to -9-9 (1969); CONN. GEN. STAT. ANN. §§ 19-139c to -139j (Supp. 1973); DEL. CODE ANN. tit. 24, §§ 1780-89 (Supp. 1970); D.C. CODE ANN. §§ 2-271 to -278 (1973); FLA. STAT. ANN. §§ 736.20-.30 (Supp. 1973); GA. CODE ANN. §§ 48-401 to -409 (Supp. 1973); HAWAII REV. STAT. §§ 327-1 to -9 (Supp. 1973); IDAHO CODE §§ 39-3401 to -3411 (Supp. 1973); ILL. REV. STAT. ch. 3, §§ 551-61 (1973); IND. ANN. STAT. §§ 29-2-16-1 to -16-9 (1969); IOWA CODE ANN. §§ 142A.1-.10 (1969); KAN. STAT. ANN. §§ 65-3209 to -3217 (1969); KY. REV. STAT. ANN. §§ 311.165-.235 (1970); LA. REV. STAT. ANN. §§ 7:2351-:2359 (Supp. 1974); ME. REV. STAT. ANN. tit. 22, §§ 2901-09 (Supp. 1973); MD. ANN. CODE art. 43, §§ 140-49B (1971); MASS. ANN. LAWS ch. 113, §§ 7-13 (Supp. 1973); MICH. COMP. LAWS ANN. §§ 328.261-.270 (Supp. 1973); MINN. STAT. ANN. §§ 525.921-.93 (Supp. 1974); MISS. CODE ANN. §§ 278.3-01 to -09 (Supp. 1972); MO. ANN. STAT. §§ 194.210-.290 (1969); MONT. REV. CODES ANN. §§ 69.2315-.2323 (1969); NEB. REV. STAT. §§ 71-4801 to -4812 (1971); NEV. REV. STAT. §§ 451.500-.585 (1973); N.H. REV. STAT. ANN. §§ 291-A:1 to -A:9 (Supp. 1972); N.J. STAT. ANN. §§ 26.6-57 to -65 (Supp. 1973); N.M. STAT. ANN. §§ 12-11-6 to -11-14 (Supp. 1973); N.Y. PUB. HEALTH LAW §§ 4300-07 (McKinney 1970);

Despite its wide acceptance, the Act is not completely satisfactory.

N.C. GEN. STAT. §§ 90-220.1 to -220.8 (Supp. 1973); N.D. CENT. CODE §§ 23-06.1-01 to -09 (1969); OHIO REV. CODE ANN. §§ 2108.01-.52 (Page Supp. 1971); OKLA. STAT. ANN. tit. 63, §§ 2201-09 (1969); ORE. REV. STAT. §§ 97.250-.295 (1969); PA. STAT. ANN. tit. 35, § 6104 (1970); PA. STAT. ANN. tit. 20, §§ 8601-07 (Special Supp. 1972); R.I. GEN. LAWS ANN. §§ 23-47-1 to -7 (Supp. 1972); S.C. CODE ANN. §§ 32.711-.720 (Supp. 1973); S.D. COMP. LAWS ANN. §§ 34-26-20 to -41 (1969); TENN. CODE ANN. §§ 53-4201 to -4209 (Supp. 1973); TEX. REV. CIV. STAT. ANN. art. 4590-2 (Supp. 1974); UTAH CODE ANN. §§ 26-26-1 to -8 (Supp. 1973); VT. STAT. ANN. tit. 18, §§ 5231-37 (Supp. 1973); VA. CODE ANN. §§ 32-364.3 to -364.11 (1970); WASH. REV. CODE ANN. §§ 68.08.50 to .610 (1969); W. VA. CODE ANN. §§ 16-19-1 to -9 (Supp. 1970); WIS. STAT. ANN. § 155.06 (Supp. 1973); WYO. STAT. ANN. §§ 35-221.1 to -221.9 (Supp. 1973). Alabama, Arkansas, Colorado, Delaware, District of Columbia, Hawaii, Idaho, Indiana, Kansas, Kentucky, Minnesota, New Jersey, New Mexico, New York, North Carolina, Ohio, Oregon, South Carolina, South Dakota, Tennessee, Virginia, Washington, and Wyoming adopted the Act verbatim or without significant change. Others adopted it with minor changes. Fourteen states modified section 2(a), which regulates the competency of a donor to make a gift of his body. Alaska and Iowa set the minimum age at 19. ALAS. STAT. § 13.50.10 (1972); IOWA CODE ANN. § 142A.2 (Supp. 1973). Nebraska requires a sound mind and 20 years of age. NEB. REV. STAT. § 71-4802 (1971). Pennsylvania and Rhode Island set the minimum age at 21 years. PA. STAT. ANN. tit. 20, § 8602(a) (Special Supp. 1972); R.I. GEN. LAWS ANN. § 23-47-2 (Supp. 1972). Maryland and Mississippi require an age of 21 and the competency to execute a will. MD. ANN. CODE art. 43, § 142(a) (1971); MISS. CODE ANN. § 278.3-01 (Supp. 1972). Maine requires that the donor be "of legal age," ME. REV. STAT. ANN. § 2902(1) (Supp. 1973); Vermont, of "the age of majority." VT. STAT. ANN. tit. 18, § 5232(a) (Supp. 1973). Oklahoma specifies merely that the person be an adult. OKLA. STAT. ANN. tit. 63, § 2203(a) (1973). Wisconsin allows the parent of an unmarried decedent under 18 to revoke the decedent's gift, if of the entire body. WIS. STAT. ANN. § 155.06(2)(a) (Supp. 1973). Connecticut prohibits the gift if death occurred from specified diseases. CONN. GEN. STAT. ANN. § 19-139d (Supp. 1973). North Dakota adds that any person under 18 with written consent of one parent or guardian may execute a valid gift. N.D. CENT. CODE § 23-06.1-02(1) (1970). Pennsylvania also disallows a gift of the whole body unless made in writing 15 days before death. PA. STAT. ANN. § 8602(a) (Special Supp. 1972).

Two states modified the surviving parties' right to donate under section 2(b) by providing that, in the case of a donor who is a member of a religion that believes in healing solely by prayer or believes that it is wrong to mutilate or remove parts from the body for transplantation, only the organ donor has the authority to donate. CAL. HEALTH & SAFETY CODE § 7151.7 (West 1970), *as amended*, CAL. HEALTH & SAFETY CODE § 7151.7 (West Supp. 1974); R.I. GEN. LAWS ANN. § 23-47-2(b) (Supp. 1972).

Alaska, Connecticut, Louisiana, Maryland, Mississippi, New Hampshire, and North Carolina omitted section 4(c), and thus allow the donee physician to be on the transplant team. Two states omit section 4(c) for eyes only. IOWA CODE ANN. §§ 142A.4(3), .7(2) (1969); W. VA. CODE ANN. § 16-19-4(c) (Supp. 1970).

Several states changed the witness requirements of section 4(b). Illinois requires that the witnesses certify that the donor was of "sound mind and memory and free from any undue influence and kn[ew] the objects of his bounty and affection." ILL. REV. STAT. ch. 3, § 555(b) (1973). Missouri gives an alternative to the requirement of two witnesses: The donor may sign before a notary or other authorized official. MO. ANN. STAT. § 194.240(2) (1969). Some jurisdictions require substantial conformance to the form of the document outlined in the comment to the original Uniform Act, UNIFORM ANATOMICAL GIFT ACT § 4, comment. D.C. CODE ANN. § 2-274 (1973); FLA. STAT. ANN. § 736.25(2)(b) (Supp. 1973); MD. ANN. CODE art. 43, § 144 (1971), *as amended*, MD. ANN. CODE art. 43, § 144 (Supp. 1973); MICH. COMP. LAWS ANN. § 328.265(2) (Supp. 1973); MISS. CODE ANN. § 278.3-04(b) (Supp. 1972).

Illinois eliminates oral statements as revocations under sections 6(a)(2) and (3). ILL. REV. STAT. ch. 3, § 557 (1973). Texas omits "during terminal illness or injury" from section 6(a)(3), allowing oral revocation to be made to an attending physician. TEX. REV. CIV. STAT. ANN. art. 4590-2, § 7(a)(3) (Supp. 1974).

Connecticut requires death to be determined by two attending or certifying

Certain areas, such as inter vivos gifts of human body parts,[51] post-mortem autopsies,[52] and the delivery and disposition of unclaimed bodies[53] may have been left untouched because the Commissioners thought they had been settled. Hotly debated ethical questions were also left unresolved. For example, except for a provision prohibiting a physician on the transplant team from determining the time of death,[54] the Act provides no guidance for deciding when death has occurred.[55] The question of payment for anatomical gifts was also

physicians who "shall use generally recognized and accepted scientific and clinical means to determine such time of death." CONN. GEN. STAT. ANN. § 19-139:(b) (Supp. 1973).

Rhode Island and Texas state that, if the entire body is accepted by the donee, the spouse or next of kin may embalm the body for use in funeral services before the body is given. R.I. GEN. LAWS ANN. § 23-47-7(a) (Supp. 1972); TEX. REV. CIV. STAT. ANN. art. 4590-2, § 8(a) (Supp. 1974).

Delaware prohibits remuneration for gifts. DEL. CODE ANN. tit. 24, § 1783(f) (Supp. 1970). Rhode Island allows gifts only to nonprofit organ banks. R.I. GEN. LAWS ANN. § 23-47-3(3) (Supp. 1972). Connecticut, Iowa, and Minnesota specify that any gift is considered for all purposes a service and not a sale. CONN. GEN. STAT. ANN. § 19-139c (Supp. 1973); IOWA CODE ANN. § 142A.8 (1969); MINN. STAT. ANN. § 525.928 (Supp. 1974). Massachusetts expressly includes an inter vivos gift of a kidney in the Act's coverage. MASS. ANN. LAWS ch. 113, § 8(a) (Supp. 1973). Arizona, Maryland, and Mississippi protect people (usually funeral directors and embalmers) who make the body unusable for transplantation if they did not have actual notice of the intended gift. ARIZ. REV. STAT. ANN. § 36-847E (Supp. 1973); MD. ANN. CODE art. 43, § 147(b) (1971); MISS. CODE ANN. § 278.3-06(b) (Supp. 1972).

Utah allowed the Uniform Act to influence significantly the drafting of its own anatomical gift act. The major differences are as follows: A person under 21 can make gifts if legally married or if consent of parents is given, UTAH CODE ANN. § 26-26-1 (Supp. 1973); one attesting witness is required for the written document, UTAH CODE ANN. § 26-26-1 (Supp. 1973); the donee is given 24 hours to remove the organ if the gift is of a part, UTAH CODE ANN. § 26-26-4 (Supp. 1973); revocation by written instrument must be "executed in the same manner as the gift," UTAH CODE ANN. § 26-26-1 (Supp. 1973); registration of the document is not necessary, but if the document is registered it is valid until a revocation is registered, UTAH CODE ANN. §§ 26-26-1, -26-6 (Supp. 1973); and the Act expressly states that it is to be liberally construed. UTAH CODE ANN. § 26-26-8 (Supp. 1973).

51. One state modified the Uniform Act to expressly include coverage of inter vivos gifts of kidneys. MASS. ANN. LAWS ch. 113, § 8(a) (Supp. 1973). The Uniform Act definitions imply that inter vivos gifts were not meant to be covered. *See* UNIFORM ANATOMICAL GIFT ACT §§ 2(a), (b).

The Commissioners apparently believed that the problem of inter vivos gifts was fairly well resolved: "Transplantation may be effected within narrow limits from one living person to another living person. In such case, all that is required is an appropriate 'informed consent' authorizing the surgical removal on the one hand, and the implantation on the other." HANDBOOK, *supra* note 29, at 182. However, the issue was too quickly accepted as settled. *See* section IIB *infra*.

52. *See* section IIIC *infra*.

53. *Cf.* Vestal, Taber & Shoemaker, *Medico-Legal Aspects of Tissue Homotransplantation*, 18 U. DET. L.J. 271, 283-84 (1955).

54. UNIFORM ANATOMICAL GIFT ACT § 7b.

55. *See* text accompanying notes 60-72 *infra*. The Commissioners felt that defining death was best left to the judgment and integrity of the medical profession:

> This point is not subject to clear cut definition and medical authorities are currently working toward a consensus on the matter. Modern methods of cardiac

left for future resolution.[56] Finally, the Act provides no criteria for determining who should receive available organs in times of scarcity.[57]

Although it has troubled some commentators,[58] the narrow scope of the Act does have a political virtue: The Act's similarity to pre-existing donation statutes undoubtedly facilitated its acceptance by the states. With few exceptions,[59] state versions of the Act also fail to address the controversial issues of death criteria, compensation, and donee selection. Despite its omissions, the universal state acceptance of the Act provides a uniform base from which a more comprehensive assault on the scarcity of human body parts can be launched.

However, the issues ignored by the Act—in particular, the definition of death—must be resolved before organ transfers can be freely made and the optimum supply of human body parts achieved. The classic legal definition of death is usually stated to be the cessation of heartbeat and respiration.[60] However, in practice, most doctors

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pacing, artificial respiration, artificial blood circulation and cardiac stimulation can continue certain bodily systems and metabolism far beyond spontaneous limits. The real question is when have irreversible changes taken place that preclude return to normal brain activity and self sustaining bodily functions. No reasonable statutory definition is possible. The answer depends upon many variables, differing from case to case. Reliance must be placed upon the judgment of the physician in attendance.

UNIFORM ANATOMICAL GIFT ACT § 7, note. E. Blythe Stason, the chairman of the committee, agreed: "The Uniform Act does not attempt to channel medical judgment in this complex area . . . ." Stason, *supra* note 25, at 928.

56. E. Blythe Stason was not against payment but felt that it was perhaps too early to advance the idea seriously:

> It is possible, of course, that abuses may occur if payment should customarily be demanded; but every payment is not necessarily unethical . . . . On the other hand drafting a statutory provision to preclude payment will not be easy. Until the matter of payment becomes a problem of some dimensions, the matter should be left to the decency of intelligent human beings.

Stason, *supra* note 25, at 928. As a result, the Act neither encourages nor prohibits the practice.

57. Stason, and presumably the Commissioners, had no solution for this problem: "It is most unlikely that legal standards could make much sense in this complex area of scientific development." *Id.* at 929.

58. *See* Dukeminier, *supra* note 26, at 817-31; Louisell, *supra* note 25, at 621; Richards, *supra* note 25, at 99-100.

59. Connecticut provides that the time of death shall be determined by two physicians through the use of "generally recognized and accepted scientific and clinical means." CONN. GEN. STAT. ANN. § 19-139:(b) (Supp. 1973). Delaware provides that a donor may not receive remuneration for a gift of his body. DEL. CODE ANN. tit. 24, § 1783(f) (Supp. 1970).

60. *See, e.g.*, Smith v. Smith, 229 Ark. 579, 586, 317 S.W.2d 275, 279 (1958); *In re* Estate of Schmidt, 21 Cal. App. 2d 262, 273, 67 Cal. Rptr. 847, 854 (1968); Thomas v. Anderson, 96 Cal. App. 2d 371, 376, 215 P.2d 478, 481 (1950); Vaegemast v. Hess, 203 Minn. 207, 280 N.W. 641 (1938); Schmidt v. Pierce, 344 S.W.2d 120, 133 (Mo. 1961); White v. Taylor, 155 Tex. 392, 28 S.W.2d 925 (1956); Douglas v. Southwestern Life Ins. Co., 374 S.W.2d 788 (Tex. Civ. App. 1964); Collins, *Limit of Medical Responsibility in Prolonging Life*, 206 J.A.M.A. 389 (1968); Hannah, *The Signs of Death: Historical Review*, 28 N.C. MED. J. 457 (1967); Comment, *The Criteria for Determining Death in*

now define death as the cessation of brain activity,[61] because the development of shock treatment, cardiac pacemakers, and resuscitators enables doctors to maintain heartbeat and respiration after the brain has ceased to direct regular body functions.[62] Two states have statutes that allow the brain death criterion,[63] and a third has modified its Anatomical Gift Act to authorize medical discretion in setting death standards.[64] However, at least one court has expressly refused to use the cessation of brain activity as the criterion of death.[65]

The pressure to define death in terms of brain activity is particularly acute when a transplant is contemplated, for a successful transplant requires a fresh organ, undeteriorated by lack of oxygen.[66] Optimal transplant conditions require that the organ be removed when the donor's circulation is still intact,[67] an operation that would be impermissible under traditional definitions. If courts follow the common law precedents, transplant surgeons may be technically liable for homicide[68] and vulnerable to wrongful death actions.[69]

Doctors who employ a brain cessation definition of death apparently assume—perhaps unjustifiably—that the traditional defini-

Vital Organ Transplants—A Medical-Legal Dilemma, 38 U. Mo. L. Rev. 220 (1973); Comment, *Medical Jurisprudence—Determining the Time of Death of the Heart Transplant Donor*, 51 N.C. L. Rev. 172 (1972). *See generally* Black's Law Dictionary 488 (4th ed. rev. 1968).

Only two cases have been found in which the jury was allowed to use the cessation of brain function as a possible definition of death. [Jury] Instruction No. 7, Tucker's Admin. v. Lower, Civ. No. 2831 (Richmond [Va.] Ct. Law & Eq., May 25, 1972) (It should be noted that the court had changed its mind from the time of its Memorandum Opinion of May 23, 1972); State v. Lyons (Alameda County [Cal.] Super. Ct., May 2, 1974), in National Observer, June 1, 1974, at 5, col. 1.

61. *See* Cooley, *Minutes of the Capetown Meeting*, Med. World News, Aug. 9, 1968, at 21, 22; Note, *Human Organ Transplantation: Some Medical-Legal Pitfalls for Transplant Surgeons*, 23 U. Fla. L. Rev. 134, 149-50 (1970).

62. *See* F. Moore, *supra* note 7, at 211-12; Largiader & Senning, *The Donor*, in Organ Transplantation 75, 82-83 (R. Largiader ed. 1970); Voight, *The Criteria of Death, Particularly in Relation to Transplant Surgery*, 14 World Med. J. 143 (1967); Wasmuth, *The Medical, Legal, and Ethical Considerations of Human Organ Transplantations*, 11 Wm. & Mary L. Rev. 636, 648 (1970).

63. Kan. Stat. Ann. § 77-202 (Supp. 1973); Md. Ann. Code art. 43, § 54F (Supp. 1973). Brain death is an alternative in both statutes.

64. Conn. Gen. Stat. Ann. § 19-139 (Supp. 1973).

65. Gray v. Sawyer, 247 S.W.2d 496 (Ky. App. 1952).

66. *See* Largiader & Senning, *supra* note 62, at 89-90.

67. *See* the comments of T. Starzl in *Discussion*, in Ethics in Medical Progress: With Special Reference to Transplantation 65, 67 (G. Wolstenholme & M. O'Connor ed. 1966) [hereinafter Ethics].

68. Transplant operations have been used to establish a causation defense for accused murderers. N.Y. Times, Oct. 29, 1973, § 1, at 5, col. 1 (late city ed.); *id.*, May 8, 1968, § 1, at 23, col. 1 (late city ed.); State v. Lyons, (Alameda County [Cal.] Super. Ct., May 2, 1974), in National Observer, June 1, 1974, at 5, col. 1. *See generally* Comment, 38 U. Mo. L. Rev. 220, *supra* note 60, at 231-33.

69. *Cf.* Tucker's Admin. v. Lower, Civ. No. 2831 (Richmond [Va.] Ct. Law & Eq., May 25, 1972).

tion will be relaxed in deference to medical discretion.[70] The doctors' dilemma calls for the setting of death criteria through legislation. Statutory guidelines would limit flexibility,[71] but they could provide a certainty that would protect physicians and possibly assuage the fears of surviving relatives.[72] The establishment of a definition of death is not an exclusively medical problem; it includes a number of important social decisions that do not require medical expertise and that should be debated in a public forum.

B. *The Living Source*

Under the common law an adult, if fully informed of the risks and consequences, can donate his nonvital organs[73] for use in trans-

70. *See* UNIFORM ANATOMICAL GIFT ACT § 7, comment; Kennedy, *The Kansas Statute on Death—An Appraisal*, 285 NEW ENG. J. MED., Oct. 21, 1971, at 946; Sadler, Sadler & Stason, *The Uniform Anatomical Gift Act—A Model for Reform*, 206 J.A.M.A. 2501, 2504 (1968); Stason, *supra* note 25, at 928; Note, *supra* note 61, at 136 n.15.

There is some evidence that the commissioners mistakenly assumed that the courts had deferred and would continue to defer to the doctor's decision on death criteria on a case-by-case basis. *See* Comment, *Suggested Revisions To Clarify the Uncertain Impact of Section 7 of the Uniform Anatomical Gift Act on Determinations of Death*, 11 ARIZ. L. REV. 749, 755 (1969).

71. *See Organ-Transplant Ethics: Let M.D.'s Decide!*, 45 MED. ECON., May 13, 1968, at 215, 215-22; *Who Defines Death—Law or Medicine?*, 9 MED. WORLD NEWS, July 19, 1968, at 14, 14-15.

72. *See* Capron & Kass, *A Statutory Definition of the Standards for Determining Human Death: An Appraisal and a Proposal*, 121 U. PA. L. REV. 87 (1972); Wecht & Aranson, *Medical-Legal Ramifications of Human Tissue Transplantation*, 18 DEPAUL L. REV. 488, 499-500 (1969); Comment, *Medico-Legal Problems with the Question of Death*, 5 CALIF. W. L. REV. 110, 122 (1968); Note, *Gifts—The Anatomical Gifts Act of North Carolina*, 6 WAKE FOREST INTRA. L. REV. 155, 161-63 (1969).

73. One kidney, the spleen, bone marrow, three to six feet of small bowel, small pieces of skin, part of the thyroid, one parathyroid, one adrenal gland, and one gonad are normally considered nonvital. (This list is not intended to be exclusive.) *See* F. MOORE, *supra* note 7, at 97, 290-312. Technically, the eyes are nonvital, but, since their removal will severely incapacitate a living source, they are not ordinarily considered appropriate objects for removal. *See, e.g.*, Daube, *Transplantation Acceptability of Procedures and the Required Legal Sanctions*, in ETHICS, *supra* note 67, at 188, 195-96.

The removal of any part of the donor's body may to some extent be incapacitative, however. For example, the removal of one kidney may affect the donor's future ability to recover from kidney disease. In addition, there is a risk that something will go wrong in the actual donation operation itself:

> The immediate operative risk of unilateral nephrectomy [removal of one kidney] in a healthy subject has been calculated as approximately 0.05 per cent. The long-term risk is more difficult to estimate, since the various types of renal disease do not appear to be more frequent or more severe in individuals with solitary kidneys than in normal subjects. On the other hand, the development of surgical problems, trauma, or neoplasms, with the possible necessity of nephrectomy, do increase the long-term risks in living donors; the long-term risk, on this basis, has been estimated at 0.07 per cent . . . . These data must, however, be considered in the light of statistical life expectancy which, in a healthy 35-year-old adult, goes from 99.3 per cent to 99.1 per cent during the next five succeeding years; this is an increase in risk equal to that incurred by driving a car for 16 miles every working day . . . .

Hamburger & Crosnier, *Moral and Ethical Problems in Transplantation*, in HUMAN TRANSPLANTATION, *supra* note 13, at 37, 37-38. *See also* P. RUSSELL & A. MONACO, *supra* note 3, at 160; *Discussion*, in ETHICS, *supra* note 67, at 14, 19-20; N.Y. Times, Aug. 26,

plants.[74] Thus, although there has been a minor trend away from living sources in the past three years,[75] they were used in thirty-five per cent of all kidney allografts in the United States in 1972.[76] A living source is medically preferred because he or she is typically a sibling or parent of the donee. Tissue matching is therefore likely to be more successful than if an unrelated cadaver source is used.[77] Advances in immunology and tissue typing[78] have increased the success rate with cadaver sources,[79] but that rate is not yet comparable to the success rate achieved with related donors.[80] Despite the higher success rate, some physicians refuse to use living sources[81] because of the danger to the health of the source.[82]

The law imposes greater restrictions on the donation of nonvital organs when the source is a minor or an incompetent. Consent of a parent, guardian, or a committee is required even for ordinary surgical treatment if the surgeon is to proceed without risk of civil liability.[83] A well-established common law doctrine permits a court

1973, § 1, at 34, col. 3 (late city ed.). Life insurance companies accept a person with only one kidney as a normal risk. *General Discussion*, in ETHICS, *supra*, at 154, 163 (remarks of Dr. Murray). However, accurate empirical data have yet to be gathered that fully back up any theory on the donor's health after the loss of one kidney. Sanders & Dukeminier, *Medical Advance and Legal Lag: Hemodialysis and Kidney Transplantation*, 15 UCLA L. REV. 357, 389 (1968).

74. Louisell, *Transplantation: Existing Legal Constraints*, in ETHICS, *supra* note 67, at 78, 80; Vestal, Taber & Shoemaker, *supra* note 53, at 283; Wasmuth & Stewart, *supra* note 3, at 446; Note, *Human Organ Transplantation: The Medical Miracle and the Legal Maze*, 20 S.C. L. REV. 419, 422 (1968).

75. *The 11th Report of the Human Renal Transplant Registry*, *supra* note 5, at 1198-99; *The Tenth Report of the Human Renal Transplant Registry*, *supra* note 19, at 1498-99; *The Ninth Report of the Human Renal Transplant Registry*, *supra* note 19, at 256.

76. *The 11th Report of the Human Renal Transplant Registry*, *supra* note 5, at 1199. Totaling all kidney allografts made from 1951 to 1972, 46.4 per cent of the grafts in the United States came from living donors, while only 21.2 per cent in Europe and 1.7 per cent in Australia came from living donors. *Id.* at 1198.

77. From 1951 to 1966, 88.5 per cent of the 243 recipients of sibling allografts were alive at the end of one year and 56.4 per cent were alive with the graft functioning. In comparison, only 42.0 per cent of the 683 recipients of cadaver donor allografts were alive at the end of one year and only 35.6 per cent were alive with graft functioning. *Id.* at 1202 (table 3).

78. *See* text accompanying notes 149-65 *infra*.

79. In 1972, 71.8 per cent of the 669 recipients of allotransplants from a cadaver donor were alive at the end of one year; 45.4 per cent were alive with the graft functioning. *The 11th Report of the Human Renal Transplant Registry*, *supra* note 5, at 1202 (table 3).

80. In 1972, 87.4 per cent of the 202 recipients of sibling allografts were alive at the end of one year and 74.0 per cent were alive with the graft functioning. For 155 cases of allograft from a parent, 91.7 per cent were alive at the end of one year, and 76.4 per cent were alive with the graft functioning. *Id.*

81. F. MOORE, *supra* note 7, at 313-14.

82. *See* note 73 *supra*.

83. *See* Zoski v. Gaines, 271 Mich. 1, 260 N.W. 99 (1935); Rogers v. Sells, 178 Okla.

to overrule parental judgment when it is judged that the parent is not acting in the child's best interest,[84] but considerable deference is normally given to parental decisions.[85]

The transplant situation is unusual because the operation does not increase the physical well-being of the source but actually presents a health risk.[86] In *Bonner v. Morgan*,[87] a fifteen-year-old boy consented to the removal of a large piece of his skin in order to supply his cousin with a skin graft. The donor suffered great pain and disfigurement and was hospitalized for two months, and the physician was held liable for acting on the child's consent alone. The court implied that parental consent was necessary but did not discuss whether the consent could be overruled because it was not in the interest of the child.

The uncertainty regarding the sufficiency of parental consent led doctors at Peter Bent Brigham Hospital to refuse to proceed with three transplant operations that involved minor identical twins until a court ruled on the legality of the procedures.[88] The Massachusetts Supreme Judicial Court allowed the transplants on the grounds that each source had consented, the parents of the sources and recipients had consented, and, most significantly, the sources would be psychologically benefitted by the continued companionship of their siblings.[89] The decisions relied heavily on psychiatric testimony that the healthy twin might suffer "grave emotional impact" were the

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103, 61 P.2d 1018 (1936); Moss v. Rishworth, 222 S.W. 225 (Tex. Comm. App. 1920). Minors approaching maturity have been held to be capable of giving their own consent in a few cases. *See* Bishop v. Shurly, 237 Mich. 76, 211 N.W. 75 (1926); Bakker v. Welsh, 144 Mich. 632, 108 N.W. 94 (1906); Lacey v. Laird, 166 Ohio St. 12, 139 N.E.2d 25 (1956). *Accord*, RESTATEMENT (SECOND) OF TORTS § 59(1) (1965).

84. *See* Prince v. Massachusetts, 321 U.S. 158, 170 (1944).

85. *See, e.g.*, Odell v. Lutz, 78 Cal. App. 2d 104, 106, 177 P.2d 628, 629 (1947); Matarese v. Matarese, 47 R.I. 131, 133, 131 A. 198, 199 (1925). The Supreme Court has stated in dictum that a parent's right to control the education and rearing of his child is constitutionally protected against unwarranted state infringement. Pierce v. Society of Sisters, 268 U.S. 510, 534 (1924); Meyer v. Nebraska, 262 U.S. 390, 399-400 (1923).

86. *See* note 73 *supra*.

87. 126 F.2d 121 (D.C. Cir. 1941).

88. These cases are discussed and reported in Curran, *A Problem of Consent: Kidney Transplantation in Minors*, 34 N.Y.U. L. REV. 891 (1959).

89. Foster v. Harrison, No. 68674 Eq. (Mass. Sup. Jud. Ct., Nov. 20, 1957); Huskey v. Harrison, No. 68666 Eq. (Mass. Sup. Jud. Ct., Aug. 30, 1957); Masden v. Harrison, No. 68651 Eq. (Mass. Sup. Jud. Ct., June 12, 1957).

The doctrine applied in these cases is best stated by Schreiner, *Problems of Ethics in Relation to Haemodialysis and Transplantation*, in ETHICS, *supra* note 67, at 126, 130-31:

> Man obviously has the right to maim himself; he can amputate his leg or cut off an infected area if it is for the good of his whole organism. If giving a kidney is for his spiritual or psychiatric good, and is recognized as part of the total person, it seems to me that the particular mutilation becomes quite permissible under the extension of the principle of physical totality to the totality of a spiritual person.

donation not allowed.[90] Since the donor would receive some benefit,[91] albeit emotional rather than physical, the court felt it could bring the transplant situation within the traditional rules of consent for ordinary medical treatment, and hence deferred to parental judgment.

The analysis of the Massachusetts court is troublesome. In effect, the "psychological benefit" doctrine can be used as a rationale for always deferring to parental consent in transplantations concerning minors. However, the unique character of the transplant situation makes the propriety of deferring to parental consent questionable. The parent is presented with a serious conflict of interests when the donor and donee are siblings. When consenting to a conventional medical operation, the parent must consider the welfare of only one child and can act exclusively in that child's best interests. In the transplant situation, two children are involved; the parent, inevitably concerned with the welfare of both, will tend to balance their interests. When one child faces death, the well-being of the other—the source—may be easily outweighed.

The rationale behind allowing one person to consent for another should be that the former is better able to take into account all of the interests of the latter, because the latter is incapable of making an educated and rational choice. The decision-maker is to "step into the shoes" of the protected person.[92] However, the protective function is subverted when the decision-maker has conflicting interests in the decision. The Massachusetts court's concern for the benefit to the source child was not misplaced, but the court ignored the critical question of whether the parents could objectively assess that benefit.

The problems that can arise when the psychological benefit doctrine is used to defer automatically to a parent's consent are dramatically illustrated by the Kentucky case of *Strunk v. Strunk*,[93] in which the court, upon the petition of the mother, permitted a kidney allograft from a mentally retarded son to his normal brother. The tendency of a mother to favor the life of a normal son, in this case recently married, over the health of a retarded son is undoubtedly strong. One wonders whether minors and incompetents should

90. Finding, Rulings, and Order for Decree at 3, Foster v. Harrison, No. 68674 Eq. (Mass. Sup. Jud. Ct., Nov. 20, 1957); Findings, Rulings, and Order for Decree at 2, Huskey v. Harrison, No. 68666 Eq. (Mass. Sup. Jud. Ct., Aug. 30, 1957); Findings, Rulings, and Order for Decree at 2, Masden v. Harrison, No. 68651 Eq. (Mass. Sup. Jud. Ct., June 12, 1957).

91. These findings are contestable in light of later research. *See* text accompanying notes 108-23 *infra*. *See also* Strunk v. Strunk, 445 S.W.2d 145, 150 (Ky. 1969) (Steinfeld, J., dissenting): "It is common knowledge beyond dispute that the loss of a close relative or a friend to a six-year-old child is not of major impact."

92. *See* Crippen v. Pulliam, 61 Wash. 2d 725, 380 P.2d 475 (1963).

93. 445 S.W.2d 145 (Ky. 1969).

function as suppliers of spare parts without the benefit of a procedure that more adequately safeguards their interests.

Some courts are beginning to reevaluate the psychological benefit doctrine in cases involving minor siblings. In *Hart v. Brown*,[94] for example, a Connecticut court observed that the psychiatric testimony relied on in the Massachusetts cases was "of limited value . . . because of the ages of the minors."[95] The court appeared to recognize that the parents in such cases would inevitably balance the interests of the two children and indicated that the motivation and reasoning behind the parental decision should be closely examined in every case.[96] The court then balanced the relevant factors and found that the decision to proceed with the transplant in the case before it was sound. A recent Louisiana court of appeals decision also failed to accept the psychological benefit approach. The court, analogizing from a Louisiana law that prohibits a minor or his parent from transferring his private property, refused to allow the transplant of a kidney from an incompetent minor to his normal sibling.[97] The difficulties encountered when parents and guardians make these decisions has led many doctors to decide that, even with full and knowledgeable parental consent, minors should not be involved in experiments or other operations that are not undertaken exclusively for their benefit.[98]

The concern that the courts and the medical profession have shown over the adequacy of consent in cases involving minors should not be relaxed when the source is a living adult. Whatever the age or competency of the source, the operation will not have any physical benefit to him and may prove to be a serious threat to his future well-being. However, no distinction between the consent requirements for removal of nonvital organs for donation and the consent requirements for more typical surgery has been made for the legally competent adult donor.[99] The lack of a distinction probably stems from the Anglo-American principle that, where the maintenance of social order is not threatened, an individual should be allowed to control his destiny, even to his detriment.[100] However, that principle has

94. 29 Conn. Supp. 368, 289 A.2d 386 (1972).

95. 29 Conn. Supp. at —, 289 A.2d at 390.

96. 29 Conn. Supp. at —, 289 A.2d at 390-91.

97. *In re* Richardson, 284 S.2d 185, 187 (La. Cir. Ct. App. 1973): "In Louisiana our law is designed to protect and promote the ultimate best interest of a minor. . . . [I]t is inconceivable to us that it affords less protection to a minor's right to be free in his person from bodily intrusion to the extent of loss of an organ unless such loss be in the best interest of the minor."

98. Dunphy, *supra* note 5, at 71. *See also* M. GROSS, THE DOCTORS 312 (1966); Daube, *supra* note 73, at 198-99.

99. *See* note 74 *supra* and accompanying text.

100. W. PROSSER, HANDBOOK OF THE LAW OF TORTS 101 (4th ed. 1971).

been qualified where free consent by a normally competent individual is unlikely.[101] A transfer of body parts by a living source may present such a case.

Some physicians may fear that the decision to serve as a source is not always made freely. There appears to be a bias against the use of living sources,[102] perhaps because of a feeling that it is wrong to mutilate the body of a healthy person if he receives no benefit from the act,[103] or perhaps because the source's motivations are distrusted.[104] Most physicians require that a living source be submitted to a rigorous psychological screening,[105] which eliminates a significant portion of willing donors.[106] Many medical centers refuse to use nonrelated living sources.[107]

101. Duress is an important defense to charges of criminal action in the criminal laws of most states. *See* Newman & Weitzer, *Duress, Free Will and the Criminal Law*, 30 S. CAL. L. REV. 313 (1957). In tort law, coercive pressures may be held to invalidate consent, even if overtly given, permitting the plaintiff to bring a successful action. *See, e.g.*, Meints v. Huntington, 276 F. 245 (8th Cir. 1921) (threat of physical force); Miller v. Balthasser, 78 Ill. 302 (1875) (threat of physical violence). In contract law, unusual pressures on one of the contracting parties may justify rescission. *See, e.g.*, Chandler v. Sanger, 114 Mass. 364 (1874); Wise v. Midtown Motors, Inc., 231 Minn. 46, 42 N.W.2d 404 (1950).

It is also recognized that in certain instances an active manifestation of consent on the part of the injured party may not obviate the seriousness of the defendant's conduct. One cannot consent to his own murder and exonerate the murderer, for example. *See, e.g.*, State v. West, 157 Mo. 309, 57 S.W. 1071 (1900).

102. *See* Sadler, Davison, Carroll & Kountz, *The Living, Genetically Unrelated, Kidney Donor*, in PSYCHIATRIC ASPECTS OF ORGAN TRANSPLANTATION 86 (Castelnuovo-Tedesco ed. 1971); Nakamato, Straffon & Kolff, *Human Renal Homo-Transplantation with Cadaver Kidneys*, 192 J.A.M.A. 302 (1965); Fellner & Marshall, *Kidney Donors—The Myth of Informed Consent*, 126 AM. J. PSYCHOLOGY 1245 (1970).

103. Sadler, Davison, Carroll & Kountz, *supra* note 102, at 86-87. *See also* Fellner & Schwartz, *Altruism in Disrepute—Medical Versus Public Attitudes Toward the Living Organ Donor*, 284 NEW ENG. J. MED. 582 (1971); Hamburger & Crosnier, *supra* note 73, at 38-39.

104. Hamburger & Crosnier, *supra* note 73, at 37-44.

105. Of 22 prospective kidney donors interviewed by two doctors, 11 were in the most favorable psychological category. *Id.* at 38. Some centers have routinized the selection procedure and have institutionalized psychiatric review boards to reject any prospective donors whose ambivalence or anxiety appear too great, or whose decision is considered more the result of family pressure than individual desire. Other hospitals and centers use very informal procedures. *See* Kemph, *Psychotheray* [sic] *with Donors and Recipients of Kidney Transplants*, in PSYCHIATRIC ASPECTS OF ORGAN TRANSPLANTATION, *supra* note 102, at 145; *Discussion*, in ETHICS, *supra* note 67, at 14, 14 (remarks of Dr. Hamburger); Hayes & Gunnells, *Selection of Recipients and Donors for Renal Transplantation*, 123 ARCHIVES INTERNAL MED. 521 (1969).

106. For example, two out of every five "volunteers" are eliminated in investigation by the Renal Unit of Hospital Necker in Paris. *Discussion*, *supra* note 105, at 14 (remarks of Dr. Hamburger). Hayes & Gunnells, *supra* note 105, at 522, discuss the screening of 380 parents and siblings of 79 transplant candidates. Of these, 62 potential donors were judged to be completely acceptable; only 20 were in fact used.

107. In a worldwide survey of 54 transplant centers, it was found that the donation of a kidney to an unrelated person is viewed by many physicians as " 'impulsive,' " " 'not to be trusted,' " and " 'influenced by subliminal forces.' " Sadler, Davison, Carroll

The screening procedure may appear to be an adequate guarantee that donor consent is freely given. However, even those sources who pass screening may have been subjected to coercive pressures. For example, there is evidence that family pressures are a factor in deciding to become a source in a significant number of kidney transplant cases.[108] Frequently, the source is the "black sheep" of the family, or a member who feels some guilt because of past behavior.[109] Severe conflicts within and between individual family members have been a by-product of the choice of the donor.[110] Bitterness on the part of the recipient and his spouse toward reluctant family members has also been noted.[111] Nevertheless, many intrafamily transplants have been accomplished relatively smoothly;[112] conflicts that existed prior to the transplant have sometimes been resolved by the successful completion of the operation.[113]

The frequent failure of the screening process to protect sources can best be explained by examining the dynamics of the decision to act as a source. While the data are somewhat conflicting, certain conclusions can be drawn. For example, the decision to become a source is usually made immediately upon notification of the need,[114] often before the source has consulted his or her spouse.[115] Such decisions have been described as "emotional" or "impulsive" and

& Kountz, *supra* note 102, at 96. Only 11 of those centers continue to use the unrelated donor. *Id.* at 95.

108. Eisendrath, Guttmann & Murray, *Psychologic Considerations in the Selection of Kidney Transplant Donors*, 129 SURG. GYNEC. & OBSTET. 243, 244 (1969); Kemph, *supra* note 105, at 152-53; Simmons, Hickey, Kjellstrand & Simmons, *Donors and Non-Donors: The Role of the Family and the Physician in Kidney Transplantation*, in PSYCHIATRIC ASPECTS OF ORGAN TRANSPLANTATION, *supra* note 102, at 102. *But see* Fellner, *Selection of Living Kidney Donors and the Problem of Informed Consent*, in *id.* at 79, 80-81; Fellner & Marshall, *Twelve Kidney Donors*, 206 J.A.M.A. 2703 (1968). "Donors who volunteer because they have been requested to do so by the recipient or the family are often found to be unwilling after closer study." Hamburger & Crosnier, *supra* note 73, at 40.

109. *See* Eisendrath, Guttmann & Murray, *supra* note 108, at 246; Kemph, Berman & Coppobillo, *Kidney Transplant and Shift in Family Dynamics*, 125 AM. J. PSYCHOLOGY 1485, 1489 (1969); Simmons, Hickey, Kjellstrand & Simmons, *supra* note 108, at 111; Wilson, Stickel, Hayes & Harris, *Psychiatric Considerations of Renal Transplantation*, 122 ARCHIVES INTERNAL MED. 502, 505 (1968).

110. Simmons, Hickey, Kjellstrand & Simmons, *supra* note 108, at 110-11.

111. *Id.* at 108-11.

112. *See* Fellner & Marshall, *supra* note 108, at 2705; Simmons, Hickey, Kjellstrand & Simmons, *supra* note 108, at 112.

113. Fellner & Marshall, *supra* note 108, at 2705; Simmons, Hickey, Kjellstrand & Simmons, *supra* note 108, at 112.

114. Fellner, *supra* note 108, at 80; Sadler, Davison, Carroll & Kountz, *supra* note 102, at 88. The decision is then defended and maintained in long waiting periods and during psychiatric evaluations. The donors' defense mechanisms reduce dissonance by rationalization. Fellner, *supra*, at 83; Fellner & Marshall, *supra* note 108, at 2706.

115. Fellner & Marshall, *supra* note 108, at 2704.

"symptomatic of psychopathology";[116] they have been said to demonstrate an irrationality of decision-making that makes "informed consent" an empty concept.[117] Most sources have been classified by experienced analysts as "stable, self-supporting, middle-class citizens."[118] However, the subjects have uniformly indicated that the decision to become a source was made in an abnormal situation not conducive to ordinary decision-making.[119] Apparently, then, even if the screening process is fairly successful in detecting mentally abnormal donors, it may not detect the fact that normal sources are in abnormal situations, where they may be responding to highly coercive pressures.

The majority of the sources interviewed did receive considerable pleasure in witnessing the recipient's improvement, as well as a significant long-term increase in self-esteem.[120] However, a period of depression, often requiring some psychotherapy, occasionally occurred immediately after the operation.[121] The fact that many sources say that they "would do it again" may only mean that, given the same coercive pressures, they would make the same decision. The medical profession usually does not use prisoners[122] and children[123] as sources because, as a result of their coercive environment,

116. Fellner & Schwartz, *supra* note 103, at 584.

117. Fellner & Marshall, *supra* note 102, at 1250; Sadler, Davison, Carroll & Kountz, *supra* note 102, at 100.

118. Sadler, Davison, Carroll & Kountz, *supra* note 102, at 94. There have been isolated reports of extremely disturbed people volunteering to donate, but such people are usually screened out. *See Moral Problem on the Use of Borrowed Organs, Artificial and Transplanted*, 60 AM. INTERNAL MED. 309 (1964).

119. Fellner, *supra* note 108, at 80.

120. Eisendrath, Guttmann & Murray, *supra* note 108, at 246 ("Replies [of 65 donors] were quite consistent, irrespective of the results of the transplant. There was almost complete unanimity of belief that the donor would do it again, and that each had derived some sense of worthwhile accomplishment or helping to save a life. Sometimes, the answers were moving."); Fellner, *supra* note 108, at 83 ("[W]e were impressed by reports from all our donors that the act had turned out to be the most meaningful experience of their lives, of substantial impact in that it had brought about changes within themselves that they felt were beneficial."). In addition, *see* Sadler, Davison, Carroll & Kountz, *supra* note 102, at 88.

121. After surgery the donor feels more keenly the loss of an organ and he is often painfully aware that he has made a great sacrifice. He bears considerable underlying resentment toward the recipient and those who suggested the transplant. . . . If the psychiatrist visits the donor daily for a week after surgery he sees him go through transient, mild to moderately severe feelings of depression. . . . It is related to the mourning for the loss of part of his body and to the underlying resentment previously described. . . . Although it is likely that the great majority of donors would recover without psychotherapy, their recovery is speeded and their attitude much improved by giving them an opportunity to achieve catharsis of underlying feelings.

Kemph, *supra* note 105, at 3. *See also* Cramond, *Renal Homotransplantation—Some Observations on Recipients and Donors*, 113 BRIT. J. PSYCHIATRY 1223 (1967).

122. *See* Daube, *supra* note 73, at 197; *Discussion*, *supra* note 67, at 74-77.

123. Daube, *supra* note 73, at 198; Kilbrandon, *Chairman's Closing Remarks*, in ETHICS, *supra* note 67, at 212, 214.

they are presumed unable to give knowing consent. Yet, the pressure brought to bear on free adult sources by family or acquaintances may be as great, or even greater.

Those who defend the use of the living source can point to the higher success rate when allografts from related living sources, rather than cadavers, are used.[124] They may feel that an adult should have the right to give his or her relative the best chance of survival. However, that right, if it exists, must be balanced against the right to be free from impermissibly coercive pressures. So long as the screening process fails to distinguish between coerced and noncoerced actors the right to become a source cannot be allowed without running the risk that an actor is being forced to donate. There are three possible solutions. The first is the present system, which, under the guise of finding a psychological benefit to the source, allows the need for sources to outweigh the right to be free from coercive pressures.[125] It apparently assumes that the most egregious cases are screened out by present medical procedures. Second, the present screening procedures could be made more effective. Perhaps a more formal procedure, involving specialists in source psychology and required by statute in all cases, would more adequately distinguish between coerced and noncoerced sources. Third, if adequate screening procedures are impossible, the use of living sources may be discouraged or prohibited in order to protect unwilling sources.[126]

The third option may overcome medical objections because the rate of success with cadaver organs has significantly increased in recent years.[127] Donations from living relatives have been more successful in the past because they minimize genetic differences between the source and the recipient. If the pool of cadaver sources becomes large enough, and if tissue matching reaches its expected sophistication,[128] allografts of cadaver organs could achieve success rates comparable to those presently achieved with living sources, and the use of the living source could become unnecessary.

C. *The Scarcity*

Current methods of obtaining organs and tissues have not provided an adequate supply of parts for use in transplantation, research, and education. Not even the Uniform Anatomical Gift Act has alleviated the crisis. For example, there was a serious shortage of

124. *See* notes 77-80 *supra* and accompanying text.

125. *See* text accompanying notes 108-09 *supra.*

126. France prohibits transplants from living donors by prohibiting all surgical operations not for the benefit of the patient. Dukeminier, *supra* note 26, at 849. South Africa requires two medical practitioners to certify that the removal of the specified tissue will not prejudice the donor in any way. *Id.* at 849-50.

127. *Compare* note 77 *with* note 79 *supra.*

128. *See* text accompanying notes 149-65 *infra.*

viable kidneys before the approval of the Act in 1968. A 1967 Report to the Surgeon General estimated that, in the United States, 8,000 patients per year suffered from chronic kidney failure and were ideally suited for transplantation.[129] Yet, only 300 were being treated through dialysis or transplantation. Two studies estimated the number of candidates for kidney transplantation in 1968 at 8,000[130] and 7,000[131] respectively. Approximately 450 were actually served that year.[132]

Despite the widespread adoption of the Uniform Act, the shortage persists. Doctor Samuel L. Kountz, of the University of California Medical Center, asserts that the number of kidney transplants presently performed represents only one-tenth of the number that could be undertaken if the facilities and organs were available.[133] The effect of the Uniform Act is minimal; Dr. Kountz claims that only 10 million potential donors are carrying donor cards, while at least 100 million card carriers are needed to satisfy the demand for kidney transplants alone.[134] Dr. Kountz also noted that even with present facilities 10,000 transplants could be performed in the United States annually, four times the present number.[135]

A patient suffering from end-stage kidney failure who cannot find an organ for transplant has only two alternatives. One alternative is dialysis,[136] a process that is often unavailable,[137] always expensive,[138] and likely to create serious emotional problems.[139] Moreover,

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129. U.S. PUBLIC HEALTH SERVICE, DEPT. OF HEALTH, EDUCATION, & WELFARE, KIDNEY DISEASE PROGRAM ANALYSIS: A REPORT TO THE SURGEON GENERAL 170 (1967).

130. D. LESOURD, M. FOGEL & D. JOHNSTON, BENEFIT-COST ANALYSIS OF KIDNEY DISEASE PROGRAMS 37 (Public Health Service Pub. No. 1941, 1968).

131. U.S. BUREAU OF THE BUDGET, REPORT OF THE COMMITTEE ON CHRONIC KIDNEY DISEASE 5 (C. Gottschalk ed. 1967).

132. *Id.*

133. N.Y. Times, March 1, 1972, § 1, at 11, col. 1 (late city ed.).

134. *Id.*

135. *Id.*, Sept. 27, 1972, § 1, at 21, col. 2 (late city ed.).

136. Dialysis, or hemodialysis, is the filtration of the blood by circulation through an external artificial kidney. The artificial kidney removes blood waste products such as urea and creatinine, regulates the salt and water balance of the patient, and rids the body of excess fluid. *See generally* F. MOORE, *supra* note 7, at 79-87; N.Y. Times, Sept. 19, 1971, § E, at 9, col. 1 (late city ed.).

137. N.Y. Times, *supra* note 136.

138. The cost per year at a hospital dialysis center is 10,000 to 15,000 dollars; home dialysis costs 5,000 to 7,000 dollars per year. Richards, *supra* note 25, at 85 n.39.

139. The treatment is usually required once to twice a week, and the patient's physical state—especially immediately before treatment—is impaired. Family and patient stress over the patient's dependence on the machine has been noted, and patient suicide rates have led to intensive screening for psychological adjustment. Cramond, *Renal Transplantations—Experiences with Recipients and Donors*, in PSYCHIATRIC ASPECTS OF ORGAN TRANSPLANTATION, *supra* note 102, at 116, 119-23. *See* Simmons & Simmons, *Sociological and Psychological Aspects of Transplantation*, in TRANSPLANTATION, *supra* note 6, at 361, 376:

dialysis is considered to be a temporary treatment allowing the patient to wait for a suitable organ.[140] The other alternative is death.[141]

Unfortunately, the scarcity is not limited to kidneys. A 1970 federal panel estimated a potential need of 12,000 heart allografts per year, a sharp contrast to the less than 100 per year actually performed.[142] The panel gave the lack of donor organs as one of the major reasons for the disparity.[143] The present high mortality rate in burn cases—forty per cent of the victims of extensive third degree burns—"could be reduced drastically if enough human skin were routinely available."[144] The need may well become more critical as the success rate of organ transplants increases.[145]

The shortage extends to the number of cadavers available for medical education.[146] It has been estimated that at least 5,000 bodies are needed each year to train this country's doctors and nurses.[147] Recently, a serious shortage of cadavers has hampered the teaching of anatomy. Financially pressed schools have had to spend large sums to import bodies.[148]

The deleterious effects of the scarcity of human body parts extend beyond shortages of materials for transplants, research, and medical study. First, the scarcity affects those transplants that are actually performed, because it hinders tissue matching; second, it creates difficult ethical problems with regard to the allocation of available parts.

The first problem arises from the immune response, or the body's tendency to destroy implanted tissue that it recognizes to be foreign.[149]

Some centers, like Seattle and the Mayo Clinic, report high levels of coping. In others, like Georgetown, the story is relatively grim; 2 out of 9 patients have had schizophrenic-like episodes, 1 had a psychotic depression, and 5 had neurotic depressive episodes. Some dialysis units report that 90 per cent of their patients are engaged in full-time occupational or housewife activities; others indicate that only 25 per cent are this well rehabilitated.

140. *See* R. CALNE, A GIFT OF LIFE 61-63 (1970); Simmons & Simmons, *supra* note 139, at 369.

141. "When both of a person's kidneys cease to function, the body cannot cleanse the blood of certain toxic elements, and death will follow in about 3 weeks." Note, *Scarce Medical Resources*, 69 COLUM. L. REV. 621, 636 (1969).

142. N.Y. Times, Jan. 7, 1970, § 1, at 32, col. 2 (late city ed.).

143. *Id.*

144. L.A. Times, Sept. 24, 1967, § C, at 1, col. 4 (city ed.).

145. *Cardiac and Other Organ Transplantation in the Setting of Transplant Science as a National Effort*, 22 AM. J. CARDIOL. 896 (1968).

146. N.Y. Times, June 25, 1972, § 1, at 1, col. 2 (late city ed.).

147. *Id.*

148. *Id.*

149. *See* R. CALNE, *supra* note 140, at 15; F. MOORE, *supra* note 7, at 43. The importance of the immune reaction is demonstrated in rare conditions in which it is impaired. Patients unable to mount an immune response are liable to repeated and serious infections from bacteria and viruses that do not trouble the normal individual.

The process has two major actors—the antigen, a protein substance that excites an immune response, and the antibody, a protein that, in combination with a complement enzyme, binds, precipitates, or inactivates the invading antigen and prepares it for removal.[150] The tempo and intensity of the immune response to transplant antigens are a function of the genetic differences between the donor and the recipient.[151] Also, an animal may be sensitized by previous grafts or injections of cell extracts from the source; residual antibodies then make rejection immediate.[152] Accordingly, it is crucial in organ and tissue grafting to know whether the recipient has had prior exposure to antigens similar to those of the source.[153] The host's acquired or genetic antagonism to the donor's tissues must be overcome. In some cases the problem of cross-reacting antibodies requires a long search to find an acceptable source—particularly in the case of a patient who has been on an artificial kidney machine, or who has received multiple transfusions, or who has had several pregnancies.[154] Careful histocompatibility[155] typing of potential sources and recipients, leading to the selection of combinations that possess the fewest detectable antigenic differences, is necessary.[156]

The defense mechanism unfortunately is unable to distinguish between dangerous infective viruses and lifesaving grafts. *Id.*

150. F. MOORE, *supra* note 7, at 47.

151. Bach & Bach, *Principles of Immunogenetics*, in TRANSPLANTATION, *supra* note 6, at 40; P. RUSSELL & A. MONACO, *supra* note 3, at 113.

152. F. MOORE, *supra* note 7, at 176. *See also* P. RUSSELL & A. MONACO, *supra* note 3, at 16-25. When a kidney transplant patient has been hypersensitized, the transplanted kidney may swell and cease to function before the eyes of the operating team, who are powerless to prevent the reaction. *Id.*

153. It has been found essential to perform crossmatch tests before grafting—just as one would do a crossmatch test before a blood transfusion. The serum of the recipient is mixed with white blood cells from the donor in a small well on a plastic plate. If there is a clumping or killing of the cells under the microscope, preformed antibodies are presumed to be present and a graft should not be done. F. MOORE, *supra* note 7, at 183.

154. *Id.* If one tests serum from patients who have been on repeated dialysis against white blood cells from a random group of donors, about 40 per cent of these patients will demonstrate a reaction to at least one of the donors. *Id.*

155. Histocompatibility antigens are antigens attached to cells that enable one individual to recognize the cells of another as foreign. R. CALNE, *supra* note 140, at 102. The correlation between antigenic disparity and intensity of allograft reactivity can be seen in the early reports of kidney graft survival in man. Monozygotic twins accept grafts indefinitely, blood relatives accept them frequently, and unrelated donors accept them rarely. Albert & Terasaki, *Histocompatibility Testing: Serology and Genetics of the HL-A System*, in TRANSPLANTATION, *supra* note 6, at 388.

156. An irreducible residue of antigenic differences usually remains even after the most compatible donor and recipient have been selected. Lawrence, *Immunological Considerations in Transplantation*, in HUMAN TRANSPLANTATION, *supra* note 13, at 11. Threatening immunological adversity is thus almost always encountered. Until recently, immunosuppressive drugs were the only available weapons. *Id.* at 12. These

The first requirement of histocompatibility matching is the selection of compatible blood groups.[157] A "group" is composed of cells containing protein antigens that can be "typed" in categories by the use of specific antisera[158] containing antibodies against a single type of antigen.[159] There are two principal antigens in red blood cells;[160] blood cells can have one (*A* or *B*), both (*AB*), or neither (*O*).[161] There are also many minor red blood cell antigens. The best known is the Rh antigen, which is responsible for serious reactions in certain blood diseases.[162] Blood-group matching is easy in most cases because the variations are relatively limited.

Tissue compatibility is also a major determinant of success. At least fifteen distinct antigens have been identified in tissue cells,[163] and the search continues for others.[164] Perfect compatibility is much less common with tissue cells than with blood cells; thus, tissue typing seeks at best only the *similarity* of donor-recipient antigens.[165] A nationwide pool of donors may ease the compatibility problem:

> Future employment of tissue typing must be for cadaver donors, and must be done on a large nation-wide scale, for the variety of tissue types among man would give only a small chance of compatibility. As refined typing becomes commonly available and as organ storage methods improve, national exchange of organs should be

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drugs could not achieve selective suppression of tissue antigens, however. Richards, *supra* note 25, at 83. They left the body unable to defend itself against bacterial, viral, and fungal infections. Lawrence, *supra*, at 11; Richards, *supra*, at 83-84 n.31. Other serious side effects were also frequent, including suppression of growth in young children, suppression of production of bone marrow, skeletal lesions with softening of the bones, hypertension, high blood pressure, weight gain, diabetes, and cancer. R. CALNE, *supra* note 140, at 34.

Destruction of lymphocytes with X-irradiation has also been attempted. *Id.* at 31. Unfortunately, the dose of X-rays required to prevent allograft rejection destroys the bone marrow and damages the intestines. *Id.* Other researchers are experimenting with removal of the thymus, and/or draining of lymphocytes. F. MOORE, *supra* note 7, at 186-89.

Perhaps the most promising development is "immunological tolerance," which enables organ grafting to succeed with fewer, or ideally no, toxic drugs. *Id.* at 184-85. This approach employs subcellular preparations of donor tissue antigens in the pretreatment of the prospective allograft recipient to encourage acceptance or prolong the survival of the subsequent transplant. *Id.*

157. F. MOORE, *supra* note 7, at 214.

158. *Id.*

159. *Id.* The antisera, when mixed with blood cells of a corresponding type, cause them to clump or break.

160. *Id.*

161. *Id.*

162. *Id.* at 215.

163. Albert & Terasaki, *supra* note 155, at 391.

164. *Id.* at 399.

165. F. MOORE, *supra* note 7, at 215.

possible. Implementation will depend to a large measure on the time necessary to break down the traditional one doctor, one patient relationship to the larger concepts of one dead patient to many other doctors and waiting patients even thousands of miles away.[166]

The second serious side effect of the scarcity of human body parts is the enormous problem of allocating the few parts that are available among the many possible recipients. The selection of recipients raises profound ethical and moral questions, because nonselection may mean death.[167] There are a number of possible methods—for example, ability to pay; first come, first served; lottery, or random selection; rules, based on medical and/or social-worth criteria, established prior to the actual selection; case-by-case evaluation by the doctor who has the available organ; and a combination of the above. Where the use of the organ is essential to the survival of one of the patients and not to the survival of the others, medical need may also be a factor.

The selection procedure may vary according to the organ involved. For example, the kidney can be viably sustained outside the body for a much longer period of time than the heart, and thus the range of possible recipients may be wider for the kidney. However, certain problems will arise no matter which selection procedure is adopted. They may be illustrated by discussion of the procedures now used in allocating dialysis machines.[168]

The selection process used in hospitals and medical centers is typically divided into two major subprocesses.[169] The first involves a fairly rigid set of exclusionary criteria. The criteria may be related to the hospital's function, as in the case of veterans' hospitals,[170] uni-

166. F. MOORE, *supra* note 7, at 217, quoting Dr. Terasaki. One of the major problems operating to limit further experimentation and success with lung transplants, for example, is that "[t]oo few suitable lungs are available through cadaver sources to allow significant selection of the optimal donor by histocompatibility typing methods." Blumenstock & Veith, *Lungs*, in TRANSPLANTATION, *supra* note 6, at 569, 584. One pair of authors states that the prospective donor pool for the matching of a cadaver organ to a potential recipient must be increased to over 1,000 (for one recipient). Albert & Terasaki, *supra* note 155, at 399.

167. *See* note 141 *supra* (kidney failure), and N.Y. Times, Oct. 29, 1968, § 1, at 1, col. 1 (late city ed.) (heart disease). "In the past three years, 120 suitable patients have been considered for chronic haemodialysis (by the Royal Free Hospital in London), but only 21 patients have been treated because of limitation of space and equipment. The 21 patients are all alive, whereas of the remaining 99, only 1 is surviving and he was rejected only a month ago." Shaldon, Comty & Baellod, *Letter to the Editor*, 2 LANCET 1182, 1183 (1965). *See also* Alexander, *They Decide Who Lives, Who Dies: Medical Miracle and a Moral Burden of a Small Committee*, in LIFE, Nov. 9, 1962, at 102; Woodruff, *Transplantation: The Clinical Problem*, in ETHICS, *supra* note 67, at 5, 13.

168. For a discussion of heart recipient selection, see *Fourth Heart Transplant Raises Question of Patient Selection*, 203 J.A.M.A. 21 (1968).

169. Note, *supra* note 141.

170. "[T]reatment at VA hospitals is limited to veterans suffering from service-

versity hospitals,[171] and hospitals funded by the state.[172] Age restrictions may be imposed by funding contracts,[173] legislation,[174] or the doctors who implement the program.[175] As discussed above, psychological testing of the patient and his family is often performed to select out those patients who will not be able to bear the emotional strain of the treatment.[176] A few hospitals select out those who are unable to pay.[177] Some hospitals have highly formalized exclusionary procedures, including mandatory and detailed assessments by psychologists and sociologists, while others rely on informal evaluations by doctors.[178]

If these procedures do not sufficiently reduce the size of the recipient pool, a final selection procedure is used, based on the decisions of "social-worth" committees composed of laymen or doctors;[179] the principle of first-come, first-served;[180] or random chance.[181] The scarcity forces those who allocate organs to make second-stage choices among potential recipients who are essentially similar for medical purposes on the basis of fortuitous or arbitrary criteria.

connected disabilities and veterans with non-service-connected disabilities who are 'unable to defray the expenses of necessary hospital care.'" *Id.* at 640.

171. "University hospitals, except in cases of emergency, frequently admit patients by referral only. . . . The more usual practice . . . uses medical interest as a rule of selection preference . . . . Thus . . . 'a patient having an extra medical dividend [an interesting case] would have an advantage . . . .'" *Id.* at 642-43 (bracketed insertion in original).

172. "When state funding is used to provide a scarce resource, access to the resource may be limited to state residents even though access to the hospital's general care facilities is unrestricted. Thus the Seattle Artificial Kidney Center treats only Washington State residents." *Id.* at 642.

173. "The Mayo Clinic, the Miami Artificial Kidney Center and Charity Hospital in New Orleans all operate home dialysis training facilities funded by the Public Health Service and their contracts with the PHS providing for the selection of patients between the ages of 15 and 55 years are fairly typical." *Id.* at 643.

174. "Illinois, by statute, provides funds to hospitals for dialysis of Illinois residents through the state Department of Public Health on the condition that these funds are used for treatment of patients under the age of 50. *Id.* at 643-44.

175. "Most hospitals which are not under legislative or contractual strictures nevertheless exclude patients because of age." *Id.* at 644. *See also* De Wardener, *Some Ethical and Economic Problems Associated with Intermittent Haemodialysis*, in ETHICS, *supra* note 67, at 104, 107-08.

176. *See* Simmons & Simmons, *supra* note 139, at 376-78.

177. Note, *supra* note 141, at 653.

178. *Id.* at 654.

179. *See id.* at 658 (laymen); Schreiner, *Problems of Ethics in Relation to Haemodialysis and Transplantation*, in ETHICS, *supra* note 67, at 127-28 (doctors). The trend is to favor the first-come, first-served approach, Note, *supra* note 141, at 660, as a consequence of the public outcry generated by *Life Magazine*'s article on the "social worth" layman's committee of the Seattle Artificial Kidney Center. Schreiner, *supra*, at 128. Allowance for extreme cases of high social worth are made, however. Note, *supra*, at 660.

180. Note, *supra* note 141, at 659-60.

181. *Id.* at 660. Only one hospital used this process.

For example, a social-worth committee may approve one candidate over another because he is a Boy Scout troop leader,[182] and the first-come, first-served system may make a patient's survival depend on whether his kidney fails on the first or second day of the month.

If the scarcity is relieved, the large-scale decision of whether to allocate human and fiscal resources to the development of the transplant science or to other social goals must still be made.[183] However, the decision can then be based on an accurate social cost-benefit analysis, free of the constraints of a severe shortage of organs.

III. Alternatives

A. *Redefining Priorities*

Arguably, present public health priorities are distorted, and the shortage of body parts is illusory. Implicit in the call for an increase in the supply of human body parts is an assumption that the widespread performance of transplants is desirable. However, the cost of transplants may outweigh their value. A heart transplant, for example, may cost up to 50,000 dollars.[184] The cost of a kidney transplant is estimated at from 18,500 to 20,720 dollars, depending on the size of the transplant center.[185] There are also significant hidden costs; transplants divert doctors, medical and research facilities, funds, and research time from other medical problems.[186]

Some physicians fear that enormous sums of money are being spent on transplantation to the detriment of other health needs, particularly the basic health needs and adequate nutrition of the poor.[187] The heart transplant's high cost and low success rate has made it a principal target of these critics.[188] Also, there is evidence

182. Sanders & Dukeminier, *supra* note 73, at 377.

183. *See* section IIIA *infra*.

184. N.Y. Times, June 23, 1968, § 1, at 48, cols. 1, 3 (late city ed.). It is estimated that this cost will remain high, even if up to 10,000 transplants are undertaken per year (in contrast to the present number of about 100). One author finds the average cost to be 18,700 dollars among six centers, but charges as high as 102,500 dollars have been reported. Simmons & Simmons, *supra* note 139, at 367.

185. Simmons & Simmons, *supra* note 139, at 367.

186. "The problems of funding organ transplantation must be seen in the larger context of a general scarcity of resources in medicine, a shortage of physicians, particularly outside the urban areas, rapidly rising hospital costs and patient bills, and discussions of national health insurance and reorganization of medical care." Simmons & Simmons, *supra* note 139, at 367. *See also* D. LeSourd, M. Fogel & D. Johnston, *supra* note 130, at 40, for figures on the research and training costs of developing a kidney transplant program at a medical center.

187. Simmons & Simmons, *supra* note 139, at 367.

188. *See* Fox, *A Sociological Perspective on Organ Transplantation and Hemodialysis*, 169 N.Y. Acad. Sci. Annual 406 (1970); Lear, *A Realistic Look at Heart Transplants*, Saturday Rev., March 2, 1968, at 49. Some critics were more philosophical. "It appears that man's ultimate hope for temporal immortality by perpetual replacement of outworn parts signifies a perverse rejection of his creaturehood, a waning faith in personal

that certain preventive medical programs are more cost-effective than transplants in reducing fatalities for specific diseases, such as kidney failure. The costs and benefits of two preventative programs—streptococcus screening and bacteriuria screening—and of kidney dialysis have been compared to the costs and benefits of kidney transplants.[189] For every dollar spent, dialysis returned $.65 of benefit for home units[190] and $.28 of benefit for center units;[191] kidney transplants returned from $.63 to $1.74 of benefit;[192] streptococcus screening returned from $14.60 to $130.00 of benefit;[193] and bacteriuria screening returned from $7.50 to $65.00 of benefit.[194] It has also been suggested, based on a projection of increasing success with preventative techniques, that the need for transplantation as a remedial measure will gradually be reduced because diseases will be stopped at earlier stages.[195]

However, the promise of the transplant program should not be so hastily rejected. First, transplantation procedures are still highly experimental for most organs, including the heart, and the success of the project cannot be evaluated until the work has been more significantly advanced.[196] Second, transplantation research has advanced medical knowledge in general, contributing to the solution to other problems.[197] Third, when society has the technology to provide life-saving treatment to a dying individual, it is difficult to refuse treatment on the basis of cost figures: "There are few who complain of the costs involved in the search for and rescue of ship-

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spiritual immortality, and a desperate grasp for man-made eternity." *Are Heart Transplants Moral?*, CHRISTIANITY TODAY, Feb. 16, 1968, at 24, 26.

189. D. LESOURD, M. FOGEL & D. JOHNSTON, *supra* note 130, at 2.

190. *Id.* at 88. The authors attempted to assess benefits in dollar figures exclusively. Since some benefits defy such quantification, the limits of the study should be recognized.

191. *Id.* at 90.

192. *Id.* at 92-94.

193. *Id.* at 80-81.

194. *Id.* at 85.

195. "With an advancing state of knowledge and with the passage of time, proportions of optimal mix for a total program for the solution or amelioration of the kidney problem will follow . . . a gradually increasing emphasis on successful prevention and effective treatment of the various primary kidney diseases with progressively lesser needs for the saving of lives due to end-stage kidney disease." U.S. PUBLIC HEALTH SERVICE, DEPT. OF HEALTH, EDUCATION, & WELFARE, *supra* note 129, at 36-37.

196. The immense expenditure of effort on cancer and atherosclerosis is cited as an example of the time required to tackle major medical problems. *See* R. CALNE, *supra* note 140, at 97. *See also Report, supra* note 6.

197. Scientists have very recently reported that tests used by doctors in organ transplantation may have therapeutic value for a wide variety of diseases unrelated to organ transplantation. N.Y. Times, March 2, 1972, § 1, at 25, col. 1 (late city ed.). For example, tissue typing has helped to solve some of the mysteries of Hodgkin's disease. *Id.*

wrecked sailors; planes and helicopters are used routinely. Why then should not a similar effort be made for those in an equally desperate plight with fatal disease involving a transplantable organ?"[198]

B. *Increased Publicity*

It is possible that the Uniform Act has not eased the organ shortage[199] because public knowledge of the Act is still very limited, and the Act simply needs to be publicized. Seventy per cent of those surveyed in a 1968 Gallup poll were willing to donate their organs for transplantation.[200] If the Act is sufficiently publicized, the argument goes, these people will sign donor cards, and the scarcity will be alleviated.

Professor Dukeminier has suggested three possible reasons for the Act's failure to encourage donations, all of which would exist despite increased publicity. First, there may be a reluctance to think about one's own death. Dukeminier noted that many people die without making wills and suggested that "[o]ne of the primary reasons that people do not make wills of their property is that they cannot face death . . . . Because of these psychological inhibitions, a highly publicized campaign for organ donations has little chance of easing the shortage of organs."[201] This analogy may be inaccurate. Those who do not make wills may not be avoiding thoughts of death, but may simply feel that state intestacy laws are adequate to govern the disposition of their property. In contrast, life insurance is accepted by many people as a means of protecting their families after their death.

Dukeminier's second reason for the Act's failure is that most donations must come from a decedent's next of kin,[202] and it is difficult to approach a grieving family to ask for the decedent's organs. Third, he points out that it is also difficult to ask for the consent of the dying patient,[203] because the request may destroy the patient's hope for survival. These last two considerations may deter requests for organs at the source's death, but the emphasis of the Act is on the use of donor cards by living individuals, a procedure that should not be discouraged by either of these considerations.

More probably, the paucity of anatomical gifts is due simply to inertia; donors fail to take the steps required by the Act because they

198. R. CALNE, *supra* note 140, at 97-98.

199. *See* text accompanying notes 129-47 *supra*. Some of the leading draftsmen of the Act were optimistic that the Act's implementation would result in an increase in cadaver organ donations. *See* Sadler, Sadler & Stason, *Transplantation and the Law: Progress Toward Uniformity*, 282 NEW ENG. J. MED. 717, 722 (1970).

200. N.Y. Times, Jan. 17, 1968, § A, at 18, col. 3 (late city ed.). Little difference was found among members of the Catholic, Jewish, and Protestant religions.

201. Dukeminier, *supra* note 26, at 830.

202. *Id.* at 830-31. *See* Simmons & Simmons, *supra* note 139, at 370.

203. Dukeminier, *supra* note 26, at 831.

have no incentive other than the satisfaction of being charitable. Another very significant factor may be the spiritual and emotional attachment of the human to his body. Some religions dictate methods of cadaver disposition;[204] and many people have difficulty divorcing their memory of the live individual from the dead body.[205] Some have a very real fear that, once a donor card has been signed, physicians who desire organs will cause death even though recovery is possible, if not probable.[206]

Although it is difficult to measure public awareness of the Uniform Act, it would seem that widespread publicity would not be enough to end the organ shortage. Numerous efforts to publicize the Act have been undertaken by the Kidney Foundation and by individual doctors.[207] However, there are simply not enough donations to supply the country's human body part needs. The time has come to admit that the Act, standing alone, is not an adequate solution.

C. *The Use of Autopsy Laws*

All the states and the District of Columbia authorize autopsies under certain circumstances[208] because the public is judged to have an interest in ascertaining the cause of death. Autopsies are normally performed by a coroner when death may have been caused by homicide, suicide, or other violent means.[209] In most states the decedent is allowed to contract for a postmortem examination in insurance contracts,[210] and many states also allow the decedent or his next of kin to consent to an autopsy.[211]

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204. *See* text accompanying note 278 *infra*.

205. *See* text accompanying notes 277, 279-80, 414 *infra*.

206. *See, e.g.*, Tucker's Admin. v. Lower, Civ. No. 2831 (Richmond [Va.] Ct. Law & Eq., May 25, 1972) (brother of transplant donor sued transplant surgeons, claiming donor was alive when heart and kidneys were removed because certain vital signs were normal).

207. Dukeminier, *supra* note 26, at 820. The evidence is not all negative. In Minnesota, 10,500 individuals responded to a recent donor campaign and volunteered their organs in the event of death. Simmons & Simmons, *supra* note 139, at 370.

208. *See, e.g.*, CAL. HEALTH & SAFETY CODE §§ 7113-14 (West Supp. 1974); CAL. INS. CODE §§ 10339, 10350.10 (West 1972); IND. ANN. STAT. § 35-1904 (Supp. 1973); MASS. ANN. LAWS ch. 38, § 6 (1966). An autopsy is "[t]he dissection of a dead body for the purpose of inquiring into the cause of death." BLACK'S LAW DICTIONARY 170 (4th ed. 1951). *But see* Wasmuth & Stewart, *supra* note 3, at 458 (emphasis added): "An autopsy is a postmortem examination of the body of the deceased for the purpose of scientific interest in determining the cause of death and *other information that may be obtained that might aid medical science.*"

209. OHIO REV. CODE ANN. §§ 313.11-.16 (Page 1951); PA. STAT. ANN. tit. 16, § 1238 (1956); R.I. GEN. LAWS ANN. §§ 23-4-10 to -14 (Supp. 1972); P. JACKSON, THE LAW OF CADAVERS 171 (2d ed. 1950).

210. *See, e.g.*, Clay v. Aetna Life Ins. Co., 53 F.2d 689, 691 (8th Cir. 1931); Standard Accident Ins. Co. v. Rossi, 35 F.2d 667 (8th Cir. 1929); Schmiedeke v. Travelers Ins. Co., 30 F. Supp. 640, 641 (N.D. Tex. 1940).

211. CAL. HEALTH & SAFETY CODE § 7113 (West Supp. 1973); CONN. GEN. STAT. ANN. § 19-143 (Supp. 1973); P. JACKSON, *supra* note 209, at 171.

Some commentators have said that, when an autopsy is authorized by statute or by the consent of the person entitled to bury the body, there is a "logical implication that there is given to the doctors . . . 'permission . . . to conduct such examination in the approved and usual manner practiced by their profession.' "[212] They note that it has been "customary to remove from a body during a post-mortem organs and specimens for the purposes of pathological and histological examination and preservation,"[213] and conclude that "[p]ersons performing such autopsies might well remove tissue" for use in transplantation procedures.[214]

This conclusion has been contested by most subsequent commentary on the ground that courts are unwilling to extend the scope of autopsies by implication.[215] Only the removal of tissue for microscopic examination has customarily been allowed, and it is usually mandatory that all tissue be reinserted in the cadaver when it is returned to those who have the right and the duty of burial.[216]

However, six states have, at one time or another, enacted legislation allowing the removal of tissues and organs by physicians and coroners performing autopsies.[217] Four of the six[218] explicitly allowed a physician operating with the consent of the decedent or his next of kin to remove organs for transplantation. Three of the statutes were repealed when the states adopted some form of the Uniform Anatomical Gift Act. Only the statutes in Hawaii, Virginia, and Maryland remain.[219]

These three states provide for nonconsensual removal of organs during autopsies.[220] Maryland medical examiners may remove organs

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212. Vestal, Taber & Shoemaker, *supra* note 53, at 292, *quoting* Winkler v. Hawkes & Ackley, 126 Iowa 474, 477, 102 N.W. 418, 419 (1905).

213. Vestal, Taber & Shoemaker, *supra* note 53, at 292.

214. *Id.* at 292-93.

215. Sadler & Sadler, *Transplantation and the Law: The Need for Organized Sensitivity*, 57 GEO. L.J. 5, 13-14 (1968) ("It has been suggested that permission for an autopsy, in effect, authorizes the removal of tissue for scientific use. . . . The public is not adequately aware of the nonreplacement practices regarding autopsies, and cannot be assumed to have intended such a broad authorization."); Sidemen & Rosenfield, *supra* note 25; Wasmuth & Stewart, *supra* note 3, at 458-61; Comment, *Dead Bodies—Autopsies—Authority To Use Parts Removed in Treatment of the Living*, 33 N.C. L. REV. 653, 655 (1955).

216. *See* Gray v. Southern Pac. Co., 21 Cal. App. 2d 240, 241, 68 P.2d 1011, 1015 (1937); Palenzke v. Bruning, 98 Ill. App. 644, 651 (1870); *In re* Disinterment of Body of Jarvis, 244 Iowa 1025, 58 N.W.2d 24 (1953).

217. Ch. 933, § 2, [1957] Cal. Stat. 2144 (repealed 1968); HAWAII REV. STAT. §§ 715-14, 453-15 (1968); MD. ANN. CODE art. 43, § 147A (Supp. 1973); NEB. REV. STAT. § 71-1341 (1971); Ch. 293, [1963] Nev. Laws 533 (repealed 1969); VA. CODE ANN. § 19.1-46.1 (Supp. 1973).

218. California, Hawaii, Nebraska, and Nevada.

219. *See* note 217 *supra*.

220. HAWAII REV. STAT. § 715-14 (1968); MD. ANN. CODE art. 43, § 147A (Supp. 1973); VA. CODE ANN. § 19.1-46.1 (Supp. 1973). *See also* Note, *Organ Transplantation and the Donation: A Proposal for Legislation*, 10 WM. & MARY L. REV. 975 (1969).

for transplantation when a decedent "who may provide a suitable organ for the transplant is under their jurisdiction," "[n]o known objection by the next of kin is foreseen," and "[a] reasonable, unsuccessful search has been made . . . to contact the next of kin."[221] The medical examiners of Virginia are also empowered to provide a suitable organ "where a decedent comes under their jurisdiction . . . [and] there is insufficient time to contact the next of kin . . . and [there is] no known objection by the next of kin."[222] In Hawaii the coroner's physician or the medical examiner of any county "may perform . . . an autopsy to determine the cause of death upon the remains of any body which is brought into or found within the state and which appears to have come to death under any of the circumstances set forth in section 715–3 . . . [and] shall have the right to retain tissues, including fetal material, of the body removed at the time of autopsy to be used for necessary or advisable scientific investigation, including research, teaching, and therapeutic purposes."[223] The Hawaii statute does not require notification of next of kin.

Under each statute the critical question is the extent of the medical examiner's "jurisdiction." In Virginia, the medical examiner is empowered to "take charge of [the] dead body"[224] when he is notified of the "death of any person from violence, or suddenly when in apparent health, or when unattended by a physician, or in prison, or in any suspicious, unusual or unnatural manner."[225] The medical examiners of Maryland take charge of bodies when an individual dies "as a result of violence, or by suicide, or by casualty, or suddenly when in apparent health or when unattended by a physician, or in any suspicious or unusual manner."[226] In Hawaii, the coroner assumes jurisdiction over "the death of any person within his jurisdiction as the result of violence, or as the result of any accident, or by suicide, or suddenly when in apparent health, or when unattended by a physician, or in prison, or in a suspicious or unusual manner, or within twenty-four hours after admission to a hospital or institution."[227]

The solution adopted by these states has two serious flaws. First, if the consent requirement found in most anatomical gift statutes is to be removed in some cases, it should be removed in all. The statutes in effect provide that only those individuals who happen to die under the specified circumstances—circumstances completely unrelated to the transplant situation (for example, death by murder

221. MD. ANN. CODE art. 43, § 147A (Supp. 1973).
222. VA. CODE ANN. § 19.1–46.1 (Supp. 1973).
223. HAWAII REV. STAT. §§ 715-14 (1968).
224. VA. CODE ANN. § 19.1–42 (1960).
225. VA. CODE ANN. § 19.1–41 (1960).
226. MD. ANN. CODE art. 22, § 6 (1973).
227. HAWAII REV. STAT. §§ 715-3 (1968).

or suicide)—can be used as sources without the consent of the next of kin.

Second, and perhaps more importantly, these laws invite serious abuse because the medical examiners are given much discretion in determining which deaths fall within the statutory specifications and are thus subject to their jurisdiction. Two inappropriate pressures may weigh on the examiners' judgment: (1) If the organs are to be used in transplants, they often must be removed from the body very soon after death. An examiner's decision to do an autopsy and remove the organs must thus be immediate, and he may make only a hurried effort to locate the next of kin. The Hawaii statute does not require any notification. (2) The serious scarcity of organs may cause the examiner to act to the very limits of his discretion in assuming jurisdiction. A procedure formerly used merely to ascertain the cause of death is thus transformed into an organ-gathering procedure. If the consent requirement is to be eliminated, it should be done openly and uniformly, regardless of manner of death.

Hawaii also has a statute that provides that an autopsy performed with the express consent of the next of kin "shall include consent to the retention by [the performing physician of body parts] . . . for necessary or advisable scientific investigation, including research, teaching, and therapeutic purposes."[228] Although the statute allows organ removal only in autopsies undertaken with consent, it leaves no option for individuals who desire to have an autopsy performed but do not want to allow organ removal. The possible extensions of this scheme are troublesome. If, under an insurance contract or a workmen's compensation agreement, a person must consent to an autopsy upon his death where deemed necessary, he must also consent to donate his organs. Again, the consent requirement has indirectly been deprived of its force.

A preferable alternative is the Nebraska statute, which is unique in allowing the next of kin to consent to an autopsy to establish cause of death without consenting to the removal of organs for transplantation.[229] However, the statute conflicts with Nebraska's newly adopted version of the Uniform Anatomical Gift Act. Both permit valid anatomical gifts, but the autopsy statute does not clearly specify the duties of all parties and does not protect doctors and others acting in "good faith" under an apparently valid gift or authorization. The Uniform Act also outlines formal procedures for making gifts that are ignored in the autopsy statute. The superiority of the Uniform Act, as well as the need for uniformity, requires the repeal of the autopsy statute.

228. HAWAII REV. STAT. § 453-15 (1968).

229. NEB. REV. STAT. § 71-1341 (1971).

D. *Routine Removal of Organs in the Absence of Objection*

Professor Dukeminier and Doctor Sanders have proposed that legislation be enacted to make the removal of usable cadaver organs routine unless the decedent or his next of kin objects:[230] "[B]y making the basic presumption one which favors life, and by thus putting the burden of objecting upon persons who would deny life to another, the policy of saving human life is given first priority, and the wishes of persons to preserve a corpse inviolate are also accommodated. This method would produce far more organs for transplantation than are produced by statutes permitting organ donation by the decedent."[231]

However, the proposal leaves the individual only token control over the disposition of his body. As discussed above, Professor Dukeminier has argued that the Uniform Act is ineffective because individuals are unwilling to prepare for death; it is difficult to approach next of kin at the decedent's death; and it is difficult to ask a dying patient for his organs.[232] If Professor Dukeminier is correct, the consent requirement in his proposal is illusory. The considerations that he claims make the Uniform Act ineffective would, in many cases, ensure that the right to object will not be exercised by those who wish to do so. By putting the burden on the donor, Professor Dukeminier is, in effect, advocating the compulsory removal of organs and tissues. The inclusion of a token right to object may be merely an attempt to avoid the political and constitutional problems that a proposal of compulsory removal might raise.

E. *Compulsory Routine Removal*

Perhaps the societal objective of saving life should be paramount, and the rights of those entitled to bury the decedent's body should be circumscribed to permit the state to remove organs or tissues, with or without the consent of the decedent or his next of kin. This would represent a dramatic extension of current policy. At present, burial rights are qualified only by autopsy laws, which enable a coroner to examine dead bodies without the consent of the decedent or the next of kin in certain circumstances,[233] and by criminal laws[234] and laws

230. Sanders & Dukeminier, *supra* note 73, at 410-14.

231. "[I]n a recent questionnaire submitted to physicians, Dr. Robert Williams found that the Dukeminier-Sanders proposal was favored by seventy-one per cent of those responding." Dukeminier, *supra* note 26, at 837.

232. *Id.* at 828-32.

233. *See* text accompanying notes 208-29 *supra*.

234. *See, e.g.*, text accompanying notes 416-17 *infra*. The health of the community is used to justify regulations controlling burial practices. *See, e.g.*, Carpenter v. Borough of Yeadon, 158 F. 766, 768 (3d Cir. 1908); Wyeth v. Board of Health, 200 Mass. 474, 479, 86 N.E. 925, 927 (1909).

regulating the operation of cemeteries.[235]

Compulsory removal may encounter constitutional difficulties. One author concludes that it would constitute a taking of the property of the next of kin without compensation, in violation of the fifth and fourteenth amendments to the United States Constitution.[236] However, Professor Dukeminier argues that before the decedent's death the right of the next of kin to bury the body is merely a contingent right, similar to dower or the expectancy of an heir, and can be abolished by law.[237] He also points out that under the common law the right to bury is only a quasi-property right, which has no commercial value, and thus cannot be "taken."[238] The first amendment has also been cited as potentially prohibiting compulsory removal,[239] because certain religious doctrines may be incompatible with the removal of organs from dead bodies.[240]

The constitutional validity of compulsory removal is also critical to the validity of proposals—such as the Virginia and Maryland laws and the Dukeminier plan—that seriously disadvantage those who want to object to a gift on religious grounds. Such proposals, if found to be masked versions of the compulsory removal proposal, may also be constitutionally infirm.

IV. An Open Market in Human Organs

A. *Proposed Transactions*

A final alternative to the present system is the development of a market for human body parts. A market system assumes that a sufficient number of individuals, enticed by financial rewards, will contract to sell their body parts so that the overall supply will be significantly increased. Optimally, the supply would be self-regulating; as the need for human tissues and organs increases the price of parts in short supply should rise, increasing the incentive to individuals to sell those parts.

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235. *See* P. Jackson, *supra* note 209, at 184-213.

236. Note, *Compulsory Removal of Cadaver Organs*, 69 Colum. L. Rev. 693 (1969). The fifth amendment provides that private property shall not "be taken for public use, without just compensation." U.S. Const. amend. V. While no similar provision appears in the fourteenth amendment, the Supreme Court has read into the due process clause a requirement that states may appropriate property only if there is "a law authorizing it, and provision made for compensation." City of Cincinnati v Louisville & Nash. R.R. Co., 223 U.S. 390, 400 (1912). In addition, taking of property without compensation might violate a state constitution. *See, e.g.*, Mich. Const. art. X, § 2 ("Private property shall not be taken for public use without just compensation therefor being first made or secured in a manner prescribed by law.").

237. Dukeminier, *supra* note 26, at 833.

238. *Id.* at 834. *See* text accompanying note 429 *infra*.

239. Dukeminier, *supra* note 26, at 835-37.

240. *See* note 278 *infra*.

The market concept has several advantages over the previously discussed alternatives. First, it should significantly increase the supply of human body parts without sacrificing the individual's ability to control the disposition of his body. Under a market system, consent to organ transfer would be paramount. Second, a market system would eliminate much doctor-patient and doctor-relative friction at the time of death,[241] because the donor would be encouraged to contract in advance for the sale of his organs. The previously executed contract would enable the transfer to be accomplished at death with no further questioning of the patient or his relatives. Even those who decide not to enter into a sales contract would benefit, for, if the scarcity problem is eliminated by organs provided by people who do contract, those who have not contracted would not be pressured by agents of the needy.

However, the implementation of the sales concept may encounter ethical objections. One of the major concerns may be that only the poor and powerless will sell their parts and only the white upper class will be able to purchase them. This criticism has been raised against the present donative system.[242] It is feared that the ability to bury the body rather than have it carved up will become a luxury of the wealthy.[243]

However, the growing organ shortage may make a market system inevitable. A Nobel Prize-winning physicist has warned that medical advances could put "intolerable economic pressures on transplant sources."[244] Offers to sell organs have already appeared in newspapers,[245] and surreptitious sales have been noted.[246] It is hard to cal-

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241. *See* Dukeminier, *supra* note 26, at 829-31.

242. Simmons & Simmons, *supra* note 139, at 370. The first human heart transplant to prove successful for an extended period of time was Dr. C. Barnard's allograft in Dr. P. Blaiberg. The donor was "Cape-colored." N.Y. Times, Jan. 3, 1968, § 1, at 1, col. 2 (late city ed.). South African officials deemphasized the racial question, and noted that the transplant would not affect the legal status of Dr. Blaiberg as a white. *Id.*, July 26, 1971, § 1, at 9, col. 1 (late city ed.); *id.*, May 11, 1971, § 1, at 23, col. 8 (late city ed.).

243. R. TITMUSS, THE GIFT RELATIONSHIP 102 (Vintage ed. 1971). A survey of paid blood donors has shown that "[a] disproportionately high proportion of blood donors were drawn from the lower occupation-income groups." *Id.*

244. Lederberg, *Biological Future of Man*, in CIBA FOUNDATION SYMPOSIUM: MAN AND HIS FUTURE, *supra* note 3, at 263, 274.

245. *See* Dukeminier, *supra* note 26, at 811.

246. *Discussion*, in ETHICS, *supra* note 67, at 35, 37 (remarks of R. Calne).

> "There have been cases, and there will be many more, in which families for one reason or another have not wanted to donate a kidney to their afflicted relatives and sought out somebody in need of money to give a kidney and be paid for it. There have also been cases where organs have been transplanted from an unrelated "volunteer" donor and this donor has later blackmailed the recipient or the recipient's family. This is a danger that is going to rise increasingly frequently if there is any suspicion that money is exchanged in ordinary cases of transplantation."

Id. The present legal status of organ sales is discussed in Part V, *infra*.

culate how many sales are presently made, because remuneration need not take the form of a direct cash payment.[247] One form of noncash transaction is donation to an organ bank; those who donate their organs can obtain organs and tissues for their own use, if needed.[248] If the current shortage continues, the difficulty of preventing a black market in organs could be formidable,[249] and such a market would be impossible to regulate for the protection of the poor.

A second objection to the market system may be raised by those who disapprove on moral grounds of any system that encourages the sale of human body parts.[250] Fears of "unsavoury trafficking" are brought to mind, and visions are conjured up of the trade made famous by the notorious Edinburg murders, Burke and Hare, who killed sixteen people and sold their bodies to medical institutions for dissection.[251] However, it is not thought mercenary for one to buy life insurance, and the sale of body parts, perhaps with the proceeds to go to one's beneficiaries, has a benefit not found in life insurance: It provides life-saving organs for others. Nevertheless, subjecting body parts to the law of the market place does have some troubling implications. Will a debtor be able to put up his kidney as collateral for a loan? May a person be forced to sell a kidney in order to satisfy a money judgment? The organ market should be regulated to protect against such abuses.

At least five kinds of sales transactions could take place in a market system: (1) A present contract for the right to the body (or to specific parts) upon the death of the seller, with remuneration to be paid upon death to named beneficiaries (or to the seller's estate). The remuneration is not determined until the body is actually available for use and its value ascertained. (2) A present contract for the

247. *Cf. Blood Money*, TIME, Oct. 1, 1973, at 113 [E5], col. 3 (judge in Lexington, Ky., gave traffic violators option to pay fines in blood).

248. *See, e.g.*, R. TITMUSS, *supra* note 243, at 82-84, 93. There are a number of "family credit" blood donor systems in the United States, under which the eligible donor deposits one pint of blood (or some other fixed amount) each year in return for ensuring his and his family's yearly blood needs will be met. *Id.* at 82.

249. Dr. T. Cooper has expressed concern about a possible "black market" in organs. N.Y. Times, May 25, 1969, § 1, at 53, col. 1 (late city ed.).

250. Consider the remarks of R. Titmuss on the commercialized blood market:

> [T]he commercialization of blood and donor relationships represses the expression of altruism, erodes the sense of community, lowers scientific standards, limits both personal and professional freedoms, sanctions the making of profits in hospitals and clinical laboratories, legalizes hostility between doctor and patient, subjects critical areas of medicine to the laws of the marketplace, places immense social costs on those least able to bear them—the poor, the sick and the inept—increases the danger of unethical behavior in various sectors of medical science and practice, and results in a situation in which proportionately more and more blood is supplied by the poor, the unskilled, the unemployed, Negroes and other low income groups and categories of exploited human populations of high blood yielders.

R. TITMUSS, *supra* note 243, at 245-46.

251. W. ROUGHEAD, KNAVE'S LOOKING-GLASS 291-326 (1935).

right to the body (or to specific parts) upon the death of the seller, with a definite remuneration guaranteed at death to a named beneficiary (or to the seller's estate). This requires the buyer to accept an element of risk with respect to the value of the parts for which he has contracted. (3) A present contract for the rights to the body (or to specific parts) upon the death of the seller, with payment to be made at the time of contracting. The buyer is again required to accept the risk of the value of the seller's parts. Valuation will be difficult, but not impossible; actuarial tables could be used to estimate the value of the parts at the time of death for an individual with the characteristics of the seller, and that future value could be discounted to present worth. (4) A present transfer of nonvital organs and tissues from a living seller for present remuneration. (5) A sale by the next of kin of the decedent's body parts after the decedent's death.

The first and second proposals provide, in effect, no-premium life insurance policies. Remuneration is paid upon the death of the seller to designated beneficiaries. In the first proposal the amount paid will be uncertain, but it may have a bottom limit of the worth of the cadaver (or the part) for teaching purposes. In the second proposal, the beneficiaries receive a set amount.

Since the first three proposals involve the sale of a future right to cadaver parts, the contract rights may be repurchased if the seller changes his mind. If scarcity is alleviated by the market system and the organ is of a normal type, the price of the contract right will not have changed. If the seller fears that the value of the contract will appreciate out of his price range, he can include a provision that will give him an option to repurchase under certain conditions and at a set price.

The fourth suggestion, that present payment be made for the present transfer of nonvital organs, has the disadvantage of permitting an individual to subject himself to a health risk for a strictly financial return. As noted above, many doctors are hesitant to use living sources.[252] The donor's psychological benefit, which has been used to justify transplants from living sources,[253] is harder to accept when the major motive is clearly monetary. Living donors may be subject to significant family and self-imposed pressures, which make free consent improbable.[254] The addition of a money incentive may also be coercive; if an individual's financial need is great enough, his rational assessment of the effect of organ removal on his future health may be impossible.

The fifth alternative, the sale of a decedent's body by the next of kin, could be either subject to a decedent's right to object by express

252. *See* text accompanying notes 81-82 *supra.*

253. *See* text accompanying notes 88-91 *supra.*

254. *See* text accompanying notes 88-123 *supra.*

statement before his death or allowed regardless of the decedent's wishes. Either approach may be unpalatable because sale by the next of kin offends the traditional concept of respect for the dead.[255] The fifth alternative may even lead to the sale by expectant heirs of the rights to a source's body parts before he has died. The objection that the sales concept is too mercenary is of particular force here. Moreover, a failure to give the decedent an option to defeat the sale violates his common law right to a decent burial.[256]

B. *Organ Preservation—A Technological Limit on Market Structure*

The viable preservation of whole organs and tissues is an essential component of any transplantation program that does not rely exclusively on living sources. An organ is deprived of normal oxygenation when it is removed from its physiological site at the death of the source.[257] There follows, in rapid sequence, an exhaustion of the intracellular energy reserves, a slowdown or cessation of normal metabolic processes, and an accentuation of degenerative catabolic activities, all of which leads to progressive and ultimately irreversible damage.[258] The problem is much more acute when whole organs, such as hearts or kidneys, are involved, but it is also present in the transplantation of tissues such as bone or skin.[259]

Simple tissue—bits of bone, skin, and tendon—have been successfully preserved by freeze-drying.[260] The long-term storage of corneas has been made possible by techniques such as freezing, freeze-drying, and dessication by glycerin.[261] Most simple tissue grafts need not be viable in order to function adequately in a transplant; they are merely used as a framework for reconstruction as the host slowly replaces the lost tissue.[262] Freeze-dried skin grafts, for example, can serve as temporary biological dressings to cover burn wounds. The graft remains in place for several weeks or months, depending on the immune status of the patient, and is finally "sloughed."[263]

Long-term preservation of whole organs—such as the kidney, the liver, and the lung—has met with less success. The two most

255. Sale of bodies may bring back memories of the notorious cadaver pilfering of the 19th century. *See* text accompanying notes 413-14 *infra*.

256. *See* text accompanying notes 431-35 *infra*.

257. Sell, *Tissue and Organ Preservation*, in TRANSPLANTATION, *supra* note 6, at 405; *see also* R. CALNE, *supra* note 140, at 9; F. MOORE, *supra* note 7, at 227-33.

258. Sell, *supra* note 257, at 405.

259. *Id.* at 413-14.

260. *Id.* at 413.

261. Harris & Rathbun, *Ocular Tissues*, in TRANSPLANTATION, *supra* note 6, at 616.

262. Sell, *supra* note 257, at 413.

263. *Id.* at 414.

promising approaches—metabolic inhibition[264] and metabolic maintenance[265]—are still in the exploratory stages.[266] Short-term whole organ preservation is possible through simple cooling methods.[267] Kidneys removed up to one hour after death may be maintained for as long as fifty hours,[268] but the heart must be reimplanted within one to two hours.[269] Liver storage is commonly possible only for a few hours,[270] although successful storage for up to eight hours has been reported.[271] Thus, the simple tissues market could be nationalized, but the whole organ market will be geographically limited by the length of time that organ life can be sustained through short-term storage processes.

Various nonstorage techniques may expand the market, however. Often a potential source may be maintained after death on respiratory and circulatory machines that sustain his noninjured organs.[272] A significant amount of time can be added to organ life by the swift transport of either the recipient to the source or the source to the recipient, while the source is being artificially maintained. Even without artificial maintenance, the speed of modern transportation may extend the radius of exchange. One kidney was flown across the Atlantic Ocean before it was successfully reimplanted.[273]

A good deal of research is currently being undertaken on methods of organ preservation.[274] However, although increases in short-term survival time are anticipated, long-term storage methods for whole organs are not expected in the near future.[275]

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264. Metabolic inhibition seeks to prevent the normal destruction processes from causing severe damage to the tissues during the period of preservation by means of freezing or chemical blockage of metabolic activities. *Id.* at 406.

265. Metabolic maintenance attempts to sustain a nearly normal level of metabolic activity through perfusion with a carefully controlled fluid medium. *Id.* at 408.

266. *See id.* at 405-12.

267. *Id.*; R. CALNE, *supra* note 140, at 47-52; Kiser, Magnusson, Hewitt, Stewart & Straffon, *Experience with Preservation of Shipped-in Cadaver Kidneys*, in CLINICAL TRANSPLANTATION 181 (D. Hume & F. Rapaport ed. 1972).

268. Summers, Kjellstrand & Najarian, *Technique, Complications, and Results*, in TRANSPLANTATION, *supra* note 6, at 449.

269. As of 1971, hearts were transplanted directly from the donor to the recipient without intermediate storage. Turner, *Organ Storage*, in HUMAN ORGAN SUPPORT AND REPLACEMENT 35, 49 (J. Hardy ed. 1971). *See* Griepp, Stinson & Shumway, *supra* note 6, at 540-41, for 15 cases with a maximum ischemic storage time of 85 minutes.

270. Turner, *supra* note 269, at 45.

271. *Id.* at 46.

272. C. LYONS, ORGAN TRANSPLANTS 50, 53 (1970). *Cf.* F. MOORE, *supra* note 7, at 211.

273. N.Y. Times, Dec. 28, 1971, § 1, at 19, col. 7 (late city ed.). *See also id.*, Aug. 15, 1971, § 1, at 50, col. 4 (late city ed.).

274. *See, e.g.*, N.Y. Times, Aug. 15, 1972, § 1, at 16, col. 1 (late city ed.); *id.*, Aug. 6, 1972, § 2, at 50, col. 3 (late city ed.).

275. R. CALNE, *supra* note 140, at 94-95.

C. *Increasing the Supply*

The primary assumption behind the use of a market system is that the offer of financial remuneration will sufficiently increase the incentive to supply parts. Classic economic theory states that the supply of a good usually increases directly with its price.[276] Theoretically, then, an appropriate price level will guarantee that the organs and tissues needed to satisfy existing medical demand will be supplied.

The validity of that assumption is subject to serious question. First, the supply of human body parts may be highly inelastic—people may not be willing to part with body parts at any price. Second, supply may not increase either because only those who would have donated will sell, or because those who would have donated will assume that the demand will be met by the sales of others and the number of sellers will not offset those lost donors. Third, the body parts that are sold may be medically less fit than those now donated.

The first criticism is based on the emotional and spiritual importance given the dead body: "Our attitude towards a dead body very nearly resembles that of the savage. Most of us are greatly disturbed by the sight, or even the mere proximity, of a human cadaver. Skulls are commonly regarded with feelings of horror and repulsion . . . . Many people are averse to handling, and still more to wearing, clothes or trinkets which were worn or carried by the deceased."[277] Some religions have express mandates against the disfiguration of the dead body.[278] Perhaps the most pervasive belief is that proper burial displays respect for the departed individual.[279] This respect may be a remnant of primitive man's belief in a remaining spiritual presence in the cadaver:

> We behave at a funeral in such a way that the dead person may be favourably impressed by our conduct, and gratified by perceiving our doleful demeanour. Hence we put on inconceivably ugly clothes, and hire a most hideous equipage, in order that our friend may be carried to his grave in the correct manner. This we do, not to show respect to the dead body—for a dead body is a useless and horrible thing—but to show respect to something which we are inclined to think of as still associated with the body.[280]

The body may be so spiritually imbued that certain individuals will refuse to sell it at *any* price, and the main axiom of the market concept fails. Even if some individuals are willing to sell their organs,

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276. *See* M. SPENCER, CONTEMPORARY ECONOMICS 51 (1971).

277. C. VULLIAMY, IMMORTAL MAN 176 (1926).

278. Orthodox Jewish elements consider autopsies "abominations of the body." N.Y. Times, Jan. 2, 1972, § 1, at 34, col. 1 (late city ed.). For a discussion of the doctrinal basis for this view, see Lauterbach, *The Jewish Attitude Toward Autopsy*, 35 CENTRAL CONFERENCE OF AMERICAN RABBIS YEAR BOOK 130, 132 (1925).

279. *See* C. VULLIAMY, *supra* note 277, at 200-01.

280. *Id.*

the spiritual aura surrounding the body may make the price of parts prohibitive.

This argument affects only the disposition of cadavers and should not ordinarily affect the willingness of the living source to contribute his organs; nor should it affect the willingness of an individual to sell his own cadaver. Notable exceptions may be members of religious groups that dictate against either practice,[281] but a 1968 Gallup poll indicated that the individual's willingness to donate is not significantly affected by religious or sentimental attachments to his body.[282] Seventy per cent of those surveyed said that they would be willing to donate. Membership in a particular religion appeared to have little effect on the results. If an individual feels no spiritual compunction against donating his cadaver, he is likely to be willing to sell it for medical purposes.

Survivors, regardless of religious belief, may be reluctant to profit from the death of their relatives. Gifts may therefore remain the preferred alternative when the body of a relative is involved. However, the sales concept permits the prospective donor to select from a wider range of charities. The proceeds of a sale could be donated for the support of a city library, for example, while a dead body could not be donated to such an institution under the Uniform Anatomical Gift Act.[283]

All of the problems associated with the spiritual or emotional significance of the cadaver should arise only if the sale is executed after death. Also, both the reverence for the dead body and the compunction against profiting from the death of relatives may be weakening.[284] The increasing importance of the human body as a reparative medical tool should accelerate that process.

The second argument against the ability of a market system to increase the supply of cadaver organs is that those who will sell could all be induced to donate under a purely donative system, at less financial and social cost. Also, the market system will discourage some of those who would otherwise have donated, a loss that would not be offset by the gain in sellers. Richard M. Titmuss makes these arguments in connection with the blood market. The blood provision system of England and Wales is entirely donative.[285] Statistics for both countries for the period from 1949 to 1968 indicate progressive and sustained growth in the number of blood donors, blood donations, and the supply of blood to hospitals.[286] A 1968 study undertaken in Sweden (where blood sources are paid) demonstrated that

281. *See* note 278 *supra*.

282. N.Y. Times, Jan. 17, 1968, § A, at 18, col. 3 (late city ed.).

283. *See* text accompanying note 33 *supra*.

284. C. VULLIAMY, *supra* note 277, at 53-58.

285. R. TITMUSS, *supra* note 243, at 263-75.

286. *Id.* at 44.

approximately seventy-two per cent of the paid sources who answered said that they would give blood without a cash payment.[287] If a voluntary donation system would adequately meet the medical demand for organs, the final cost to the patient receiving the organ could be significantly reduced. The saving would come from decreased transaction costs—that is, costs of procuring the organ in terms of paper work, manhours spent, and so forth—and from the decreased cost of the organ itself. For example, it is estimated that the cost of blood to a patient in England is five to fifteen times less than the cost of blood to a patient in the United States; arguably, the reason for the difference is that England, unlike the United States, has a voluntary system.[288]

Titmuss also argues that "commercialization and profit in blood has been driving out the voluntary donor."[289] He fears what he considers to be a much greater problem than an increase in costs—the overall decline of altruism in favor of materiality:

> We do not know and could never estimate in economic terms the social costs to American society of the decline in recent years in the voluntary giving of blood . . . it is likely that a decline in the spirit of altruism in one sphere of human activities will be accompanied by similar changes in attitudes, motives and relationships in other spheres. The ethical issues raised by the use of prisoners for blood product trials and plasmapheresis programs . . . is one example. The growth of profit-making hospitals, geared to short stays, high turnover and "profitable" patients and which cannot foster a sense of community attachment is another example.[290]

Even if Titmuss's objections concerning a blood market are correct, their applicability to the organ market is questionable. The "spirit of altruism" may be enough to encourage blood donations, but arguably a stronger incentive—money—is required to obtain body parts. Because blood can be regenerated, the health risk to the source is very small.[291] If the donor of human body parts is living, however, the gift may create a substantial health risk.[292] A majority of donated parts are taken from cadavers,[293] and gifts of this sort are discouraged by the spiritual and emotional associations with the body. Indeed, the American blood supply system still depends on sales, in part because a donative system simply does not provide

287. *Id.* at 186. Only 50 per cent, however, stated that they would donate blood as *frequently* as they now sell it.

288. R. TITMUSS, *supra* note 243, at 205.

289. *Id.* at 198.

290. *Id.*

291. *Id.* at 25. If a donor is bled too frequently, iron deficiency anaemia develops.

292. *See* note 73 *supra.*

293. *See* text accompanying note 18 *supra.*

enough blood to supply those who need it.[294] Even with a revised and widely accepted donation act, the American donative system for human body parts has also failed to meet demand. Rather than suffer acute shortages in the vain hope that altruism will eventually answer the need, it is time to look to other alternatives.

The third major argument against a market system is that the quality of the organs sold will be poor. The risk that the organ will transmit disease is inherent in the transplantation process.[295] A good deal depends on the truthfulness of the source during the medical examination and the taking of medical history. A monetary incentive may lead to concealment by the source of past and present maladies. This fear is borne out by data from the American blood market. The major hazard of infection from blood transfusion is serum hepatitus, and the best available scientific test can detect only twenty per cent of the blood samples that are infected.[296] Paid donors of blood, especially poor donors, are less likely than voluntary donors to reveal a full medical history and to provide information about recent contacts with infectious disease, recent inoculations, and personal habits that would disqualify them as donors.[297] Significantly more hepatitis attacks have been reported among recipients of blood from paid donors.[298]

The incentive to conceal medical history for monetary gain would also exist when organs and tissues are involved. In fact, the incentive may be greater. More money will be involved, and troublesome medical history is arguably easier to conceal because it is often difficult to trace the cause of a transplant failure.

The National Blood Bank Act proposed by Representative Veysey would make the blood donor more accountable through the use of labeling and the imposition of criminal penalties on fraudulent

294. *Hearings on S. 2560 Before the Subcomm. on Antitrust and Monopoly of the Senate Comm. on the Judiciary*, 88th Cong., 2d Sess. 42 (Statement of Mrs. Bernice Hemphill, Managing Director of Irwin Memorial Blood Bank) (1964) [hereinafter *Hearings*].

295. *See Panel Discussion on the Development of Cancer in Transplant Recipients*, in CLINICAL TRANSPLANTATION, *supra* note 267, at 307. In Australia, kidneys with an unsuspected tumor were transplanted from a single donor to two patients. One developed the tumor and died. *Id.*

Calne summarizes the procedures used to protect recipients from such transplanted diseases: "It is first necessary to confirm that the volunteer kidney donor is healthy. In particular he must not be suffering from any infectious or malignant condition and his blood pressure should be normal. His urine is then examined for any abnormal constituents and his kidneys and urinary drainage tract are X-rayed after injection into a vein of radio-opaque material which is excreted by the kidneys." R. CALNE, *supra* note 140, at 53.

296. *Statement on Screening Donor Blood for Hepatitis-Associated Antigen* (Nov. 19, 1970), attached to letter from the American Hospital Association, January 1971 (on file at The University of Michigan Public Health Library, Ann Arbor, Michigan).

297. *Hearings*, *supra* note 294, at 3, 30, 141, 154, 201.

298. R. TITMUSS, *supra* note 243, at 147-48.

sources.[299] A similar approach could be undertaken with respect to human body parts. More significantly, safeguards to ensure the discovery of medical defects can be built into the organ market. Most blood is sold on an off-the-street basis.[300] In contrast, the organ contract will typically be made well in advance of the actual use of the organ and the time between sale and delivery may be used to verify the source's medical history. The source could be required under the sales contract to submit to periodic check-ups. In the rare case where a dying person attempts to sell his cadaver, the contract price may be valued downward to reflect the uncertainty of the condition of his parts, or such a sale could be prohibited.

The lack of a time delay may be a problem under the fourth and fifth alternatives. In regard to the fourth, where a source sells his nonvital organs for immediate use, a contractual or statutory provision could require a time delay. At present, many physicians require a living donor to wait up to a year after the decision to donate before the organ is removed.[301] No time delay is possible under the fifth alternative (sale of a decedent's organs by the next of kin), unless predeath sales are permitted. If the defective organ problem becomes serious, that alternative may be prohibited.

In sum, the first three market alternatives, which involve the sale by a living person of his own cadaver, are the most promising. A 1963 survey of United States mortality data shows that if logistic and legal problems were removed, cadaver donors could have supplied more than enough kidneys and livers to satisfy the demand.[302]

D. *The Allocation of Resources*

Even if a market system can supply enough organs to satisfy any given demand, the question of the allocation of the available organs must be faced. It is possible that, even if enough organs could be supplied to satisfy every request for a transplant, a comparison of

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299. H.R. 9912, 93d Cong., 1st Sess. (1973).

300. *See, e.g.*, 117 CONG. REC. 42828, 43613 (1971) (article from Chicago Tribune, Sept. 14, 1971, inserted in record by Representative Veysey).

301. Fellner & Marshall, *supra* note 108, at 2706.

302. Couch, *Supply and Demand in Kidney and Liver Transplantation: A Statistical Study*, 4 TRANSPLANTATION 587 (1966). (This conclusion held true regarding kidneys in 1970). *See* Belzer & Kountz, *Criteria for Selection of Cadaver Donors*, in CLINICAL TRANSPLANTATION, *supra* note 267, at 165 (footnote omitted):

> The ultimate goal of transplantation is to be able to successfully treat all patients with end-stage renal disease with a cadaver kidney, after the shortest possible waiting time on dialysis. Logistically, this is now possible. If we include the additional kidneys required for retransplantation, about 10,000 kidneys are needed each year to treat all the patients in the United States who need them. In 1969, 56,400 people died in the United States in automobile accidents, and another 58,600 people died from other accidents. Even if we exclude all other potential donors, such as patients dying from brain tumors or cerebrovascular accidents, each donor has two kidneys, and only 5% of the total number of potential donors would supply enough kidneys for all patients with end-stage renal disease.

cost-benefit ratios[303] would indicate that society would benefit more if its resources were not expended on some transplants. For instance, a ninety-year-old man suffering the infirmities of age may want to transplant as many new parts as possible into his body in order to minimally increase his life expectancy. A more profitable use of medical manpower and facilities may well be found.[304] In other words, even if the organ shortage is resolved, the shortage of medical resources forces a choice between transplantation and other programs and between one recipient as opposed to another. This section will concern itself not with the substantive issue of to whom the organs will go, but with the threshold issue of who should best make the allocation decisions if a market system is implemented.

There are two possible methods of decision-making under a market system for organs. First, the market system could be allowed to operate free of regulation, and the use of organs could be determined simply by competitive forces. Second, the legislature could govern the field by statutory regulation or the establishment of an administrative agency.

In an open market the individual makes his selling and buying decisions freely.[305] Reconciliation between buyers and sellers determines the quantities and the prices of the factors of production and the various goods and services.[306] There is no explicit decision-making process; rather, there are continuous decisions, by many actors, that collectively determine how resources will be allocated.

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303. The basic technique of public expenditure evaluation is known as cost-benefit analysis. One attempts to compare the sacrifices and the gains that will result from a specific proposal by valuing both in dollars. *See* R. HAVEMAN, THE ECONOMICS OF THE PUBLIC SECTOR 149-51 (1970). For examples of cost-benefit analysis as used in comparing dialysis with kidney transplantation, see text accompanying notes 189-95 *supra*.

304. Professor Dukeminier has expressed concern that an end to the organ shortage will lead to the increased use of costly transplant techniques at the expense of other medical procedures. Dukeminier, *supra* note 26, at 860-61. *See* notes 184-95 *supra* and accompanying text. However, Dukeminier's assumption that all available organs will be used is not valid. Even under the present scarcity some medical institutions choose not to undertake certain allograft operations when they decide that their resources can be more effectively directed to other procedures. Thus, highly experimental procedures, such as heart transplants, are less frequently undertaken because of their high cost and low success in relation to other health treatment techniques. (For the years 1971-1972, cardiac transplantation was undertaken at only a few scattered centers, and in 1972 13 of 17 transplants undertaken were done at a single institution. *Report*, *supra* note 6, at 1211. Between Jan. 1, 1968, and April 1, 1973, only 27 teams performed all the 186 bone marrow transplants undertaken. *Id.* at 1212. *See also* Berg, *Heart Transplants Are Not Enough*, LOOK, April 16, 1968, at 92; Wall St. J., Nov. 25, 1968, at 12, col. 2.) The effect of removing the scarcity would be to allow the decision of whether to transplant to be made free of the artificial constraint of a shortage of organs. *See* text accompanying notes 129-44 *supra*.

305. *See* R. HAVEMAN, *supra* note 303, at 17-23; M. SPENCER, *supra* note 276, at 44-56 (1971); Fuchs, *What Kind of System for Health Care?*, in SOCIAL POLICY FOR HEALTH CARE 92, 93-95 (1969).

306. *See* R. HAVEMAN, *supra* note 303, at 17-23; M. SPENCER, *supra* note 276, at 22.

At first glance, the idea of a freely functioning market is appealing, but in practice it may be unworkable. A serious shortcoming would be the market's selection of recipients. Only potential recipients who are able to pay the price necessary to induce a potential supplier to sell his parts would be able to receive a transplant. This runs counter to the policy, expressed in the Medicare and Medicaid programs and the current national health insurance proposals,[307] that medical care should not be available solely to the wealthy.[308]

The second major difficulty in allowing the free market to make allocation decisions is the possibility that anticompetitive conditions may develop. If a few sellers control the supply, the reconciliation function of the market will be performed inefficiently—prices will be higher, output will be restricted, and monopolists will be able to reap abnormal profits over an extended period of time.[309] Two aspects of an organs market may encourage such a monopoly.

First, a registry system that lists the tissue, blood type, and medical condition of all recipients and donors must be established if compatible buyers and sellers are to be able to contact each other. At least one state has already established a registry system,[310] and at least one interstate system is now being planned.[311] A single, regulated, national registry system, however, would allow optimal donor-recipient matching at the lowest total cost.[312] It would supply the market more efficiently than two or more registries because cost per unit serviced may fall as the registry grows larger.[313] However,

307. There have been a number of proposals for national health insurance in the United States. *See Appendix B*, NATIONAL HEALTH INSURANCE, PROCEEDINGS OF THE CONFERENCE ON NATIONAL HEALTH INSURANCE 289 (R. Eilers & S. Moyerman ed. 1971). It is widely assumed that some form of national health insurance will soon be adopted. The debate concerns only the best form. Eilers, *Introduction*, in *id.* at 1, 1. One of the major reasons for the proposals is to provide increased medical care for those presently unable to afford proper care. *See* M. PAULY, MEDICAL CARE AT PUBLIC EXPENSE: A STUDY IN APPLIED WELFARE ECONOMICS 52 (1971).

308. New York Academy of Medicine, *A Policy Statement on the Role of Government Tax Funds in Problems in Health Care*, in SOCIAL POLICY FOR HEALTH CARE, *supra* note 305, at 4, 5: "The availability of health services, as a matter of human right, should be based on health need alone, not on a test of ability to pay. The full attainment of this goal requires the broadest possible participation in the systems of financing health services, if individual dignity and self-dependency are to be enhanced."

309. *See* R. HAVEMAN, *supra* note 303, at 24; M. SPENCER, *supra* note 276, at 407-09.

310. In 1972 New Jersey established the nation's first statewide computerized central registry of dialysis patients for chronic kidney disease sufferers. N.Y. Times, Nov. 12, 1972, § 1, at 116, col. 3 (late city ed.).

311. New York and New Jersey are cooperating with each other to establish a regional program. *Id.*, Nov. 23, 1973, § 1, at 37, col. 5 (late city ed.). In a large part of Europe, a system termed "Eurotransplant" transmits data on potential recipients once a month to many of the continent's large medical institutions. Rood, Freudenberg, van Leeuwen, Schippers, Zweerus & Terpstra, *Eurotransplant*, 3 TRANSPLANTATION PROCEEDINGS 933 (1971).

312. *See* N.Y. Times, March 26, 1969, § 1, at 58, col. 8 (late city ed.).

313. The classic example is a public utility. *See* M. SPENCER, *supra* note 276, at 400.

without governmental regulation, a single registry could reap high profits while continuing to under-price and drive out smaller competitors, because its large size keeps its production costs low.[314]

The first three sales market alternatives discussed above—which involve the sale of a future right in cadaver parts—present a second factor that might encourage monopolistic practices. Organ contracts would be made well before the organ would be used and the identity of the recipient known. A "middle man" would take the form of organizations that would record organ contracts, find ready buyers, and provide immediate transfer to them. In the absence of regulation, such organizations could exercise a high degree of market control.

Leaving allocation decisions to the free market presents a third difficulty, in addition to the problems of ensuring accessibility to the poor and preventing monopoly: The good in question—a human body part—can be valued only by a person with medical expertise, and neither the seller nor the recipient is likely to have that expertise. The recipient's doctor, who can expertly value the part, may have no direct incentive to find the lowest priced organ available.

The present status of the drug market illustrates the difficulties that may arise. The prescribing physician, on his own initiative, orders the drug for which the patient must pay. The buyer has no practical means of evaluating the range of prices and quality within the market,[315] and, even with such information, he can only purchase the drug specified on the prescription.[316] Although chemically identical drugs may be sold under different names at widely varying prices, the physician has no direct incentive to prescribe the brand with the lowest price.[317] Drug advertisements virtually never mention prices, and physicians' reference manuals do not list competitive prices.[318] Instead, brand names are repeatedly stressed.[319] In practice, approximately eighty-eight per cent of all prescriptions are written in terms of brand name.[320] Doctors, who are extremely busy and

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314. R. HAVEMAN, *supra* note 303, at 24-25.

315. Steele, *Prices and Profits in the Drug Industry*, 20 NEW PHYSICIAN 146, 147 (1971).

316. *Id.* Indeed, since most pharmacists determine retail cost of a drug by adding to the drug's wholesale cost a fixed percentage of that price—usually 65 to 100 per cent—the method may serve as an incentive to a pharmacist to dispense the more expensive brand of a prescribed drug. TASK FORCE ON PRESCRIPTION DRUGS, U.S. DEPT. OF HEALTH, EDUCATION, & WELFARE, FINAL REPORT 16 (1969) [hereinafter TASK FORCE].

317. Steele, *Monopoly and Competition in the Ethical Drugs Market*, 5 J. LAW & ECON. 131, 133 (1962).

318. *Id.* at 142.

319. *Id.* at 142. "There is probably no other industry in existence where the disparagement of the quality of lower priced products can so completely substitute for actual price competition." *Id.*

320. Steele, *supra* note 317, at 146. Although this recent article implies that the

uniformly prosperous,[321] tend to dismiss cost problems given any doubt as to the quality of a drug.[322]

Commentators argue that this consumer helplessness is one of the major reasons for the large differences in price between trade name and generic name drug products.[323] A physician must similarly be relied on to select parts for his patients in an organ and tissue market.

Moreover, market imperfections could be particularly acute in an organ and tissue market, because the need for the product usually arises only when the potential recipient needs extreme therapeutic aid. Because the buyer needs the product desperately and immediately and because there are few comparable substitutes,[324] his demand will be relatively inelastic,[325] limited only by his financial resources.[326] An inelastic demand prompts producers to seek to raise prices. Some protection is afforded if the supply market remains price competitive; the buyer can protect himself by seeking the lowest priced product from among a large number of sellers. Yet, if selling power is concentrated or if consumer information is restricted, prices can rise far above actual marginal cost.[327]

In light of these difficulties, some government involvement in the allocation process is necessary. At one extreme, the government could become the only purchaser and distributor of organs. Setting prices so as to induce the proper supply and distributing the parts received

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figures are approximately the same today, it should be noted that the "88 per cent" figure comes from a 1958 survey.

321. Steele, *supra* note 315, at 153.

322. *See* Squibb, *Drug Prices—The Achilles Heel of the Pharmaceutical Industry*, 20 NEW PHYSICIAN 172, 174-75 (1971). Although it is argued that the same standards of purity are endorsed with respect to all drug makers by the Food and Drug Administration and that smaller drug companies are inspected more often by the FDA, it is to be noted that, for the total samples inspected, the small firms had irregularities in 7.4 per cent of the samples tested while the large firms had irregularities in only 1.1 per cent of the samples tested. Steele, *supra* note 317, at 145. Even with this disparity, price differentials of up to 2,000 per cent are hard to justify. *See* Squibb, *supra*, at 173, 175.

323. *See* Squibb, *supra* note 322, at 173; Steele, *supra* note 315, at 147. "For . . . 63 products, the use of low-cost chemical equivalents could have reduced the total acquisition cost to the retailer from nearly $74.9 million to $33.4 million, . . . or 55.3 percent at the wholesale level." TASK FORCE, *supra* note 316, at 36.

324. *See* text accompanying notes 136-40 *supra*.

325. The need, and therefore the willingness of the purchaser to buy, will not change significantly as the price rises or declines.

326. This phenomenon has already arisen in the drug market. Steele, *supra* note 317, at 133. *See generally* Comanor, *The Drug Industry and Medical Research, The Economics of the Kefauver Committee Investigations*, 39 J. BUS. 12 (1966); Comanor, *Research and Competitive Product Differentiation in the Pharmaceutical Industry in the United States*, 31 ECON. 372 (1964); Steele, *supra* note 315.

327. Marginal cost is the change in total overhead costs resulting from the production of another unit. *See* M. SPENCER, *supra* note 276, at 695.

to suitable recipients would be exclusively a governmental administrative function. Tax revenues or user charges adjusted to income could be used to finance agency expenditures, either directly or through a system of transfer payments. Cost efficiency would be enforced by the budgetary bureaucracy, subject to supervision by Congress through the annual mechanism of budget approval. The major problem with the system would be the high costs to the government and the danger of bureaucratic inefficiency. The United States has already assumed responsibility, including the employment of medical professionals and the provision of operating facilities, for certain types of illnesses, such as mental illness, tuberculosis, and leprosy.[328] Great Britain's National Health Service has expanded the role of the government to provide free medical and health services for all members of the community.[329]

At the other extreme, the government could allow maximum development of private enterprise while imposing certain allocation patterns through regulation. Thus, a national registry system could be privately established but regulated as to the price charged for the listing service, in the nature of a public utility. Efficiency would be maintained by a governmental regulatory commission. Rates set by such commissions are typically based on the full (average-cost) cost pricing theory,[330] under which the price allowed is equal to the sum of fixed and variable costs plus a normal profit. Prices set in this fashion can usually provide a fair rate of return on private investment.[331]

Even minimum government regulation of organ allocation would doubtless concern itself with the bargaining position of the poor, probably necessitating a system of government transfer payments. The major problem with the institution of wide-scale transfer payments in a market setting is that unless the program is correctly designed the recipients will lose their incentive to seek out the lowest priced units, causing severe inflationary pressures.[332] In an attempt to deal with such pressures, the payments may be channeled

328. Burns, *The Role of Government in Health Services*, in SOCIAL POLICY FOR HEALTH CARE, *supra* note 305, at 55.

329. *Id. See generally* A. LINDSEY, SOCIALIZED MEDICINE IN ENGLAND AND WALES: THE NATIONAL HEALTH SERVICE, 1948-1961 (1962).

330. *See* Milliman, *Beneficiary Charges—Toward a Unified Theory*, in PUBLIC PRICES FOR PUBLIC PRODUCTS 27, 32-34 (S. Mushkin ed. 1972).

331. *Id.* at 32-34.

332. It has been demonstrated that an individual, when provided with more extensive insurance against expenditures for health care, will make significantly more use of the available medical facilities and doctors. *See* H. KLARMAN, THE ECONOMICS OF HEALTH 32 (1965); Pauly, *The Economics of Moral Hazard: Comment*, 58 AM. ECON. REV. 531, 533-34 (1968). The inflationary tendencies in the costs of medical care and doctor salaries is usually explained in large part by the tremendous increase in demand for those facilities caused by increasing insurance coverage. *See* S. HARRIS, THE ECONOMICS OF AMERICAN MEDICINE 66 (1964).

either to an intermediate supplier—the hospital—or to the potential recipient. If funds are routed to the hospitals, the funding body—the state or federal legislature—may or may not defer the institution's decisions with regard to resource allocation. Deference has three disadvantages: (1) There is evidence that doctors themselves are not always pleased with their present allocative authority.[333] (2) Some aspects of the allocation decision are essentially nonmedical and should be debated and resolved in a public forum. (3) If the government decides to bear the cost of transplant operations, hospitals may be reluctant to refuse a transplant to any potential recipient, and federal and state tax money may be spent on questionable cases. The last consideration is the most troublesome, for physicians may not have the time or incentive to be cost-conscious. These problems may be alleviated by conditioning the grants on compliance with governmental guidelines that require the institutions to select out those cases that, in the opinion of the legislature, will waste medical resources, or by placing monetary limits on grants to institutions in order to encourage efficiency.

Several alternatives to routing transfer payments to the hospital must also be considered. First, the payments could be made directly to the organ recipients. Direct payment could include a copayment scheme under which the government bears a certain percentage of the cost, or could take the form of a block payment.[334] Both schemes are compatible with an efficient organ market because both prompt the consumer to obtain the needed organ at the lowest possible price. In contrast, a scheme whereby the government simply pays 100 per cent of all transplant costs could lead to gross inefficiencies—the market would indeed be open to the poor but the lack of an incentive to economize would lead to ballooning prices.[335] Perhaps the prices could be controlled by administrative inspection of individual purchases and nonpayment of unreasonable expenditures. A similar scheme was approved in October 1972, when Congress extended to almost all persons Medicare protection against the costs of kidney transplants necessitated by chronic renal disease.[336] Although the Act contemplates payment only for the medical services required, and

333. *See* Hayes & Gunnells, *supra* note 105; Nolen, *Transplants: The Doctor As Executioner*, 45 MED. ECON., May 13, 1968, at 203; Shatin, *Medical Ethics in a Changing World*, MED. WORLD NEWS, May 20, 1966, at 63; *Organ-Transplant Ethics: Let M.D.'s Decide!*, 45 MED. ECON., May 13, 1968, at 215.

334. A block payment is a lump sum payment that would not vary with the cost of the organ.

335. A lack of incentive to economize pervades the provisions for whole blood payments under the Hospital Insurance Benefits provisions of the Social Security Act. A qualifying patient is reimbursed for the entire cost of whole blood furnished as part of inpatient hospital services or posthospital care. The patient must only bear the cost of the first three pints. Inpatient Hospital Services, 20 C.F.R. § 405.123 (1973).

336. 42 U.S.C.A. §§ 426(e)-(g) (Supp. 1974). *See* 38 Fed. Reg. 17210 (1973).

not for the cost of the kidneys themselves, its attempts at price regulation are informative. Subsection (g) provides:

> The Secretary is authorized to limit reimbursement under Medicare for kidney transplant and dialysis to kidney disease treatment centers which meet such requirements as he may by regulation prescribe: *Provided,* that such requirements must include at least requirements for a minimal utilization rate for covered procedures and for a medical review board to screen the appropriateness of patients for the proposed treatment procedures.[337]

"Requirements for a minimum utilization rate" apparently means that limits must be placed on the cost of transplant operations and a minimum standard of performance established.[338] Under the final regulations, reimbursement will be allowed only for "reasonable charges"; costs above the initial guidelines are to be reimbursed "only upon appropriate justifications."[339] The penalty for cost inefficiency is thus disallowance of the transfer payment and, possibly, a revocation of the medical center's authorization as a transplant center.[340]

Government participation in the allocation process could also take the form of broad legislation that deals with transplantation costs only as part of the larger problem of distributing all health care. One scheme would be the government subsidy of group prepayment plans,[341] which provide medical care for a set yearly fee that represents the individual's share of the total estimated health care costs of all the participants. The incentive to economize is preserved because the plans' solvency depends on holding down costs, including transplant costs. Competition for participants among various plans would keep the annual fee at a minimum.

A more probable alternative is national health care legislation. Several proposals have recently been debated before the United States Congress.[342] The three bills that have received the most attention are the Comprehensive Health Insurance Act, the Nixon administra-

337. 42 U.S.C.A. § 426(g) (Supp. 1974).

338. *See* 38 Fed. Reg. 17210 (1973).

339. 38 Fed. Reg. 17212 (1973).

340. The interim regulations direct that payment for transplantation will be effected only if the transplant center has consistently and productively undertaken kidney transplants before the Act's operation. 38 Fed. Reg. 17210 (1973).

341. Under a group prepaid plan, the consumer contributes an annual sum to a medical institution, which uses the total contributions to service completely the health needs of the subscribers. *See generally* Donabedian, *An Evaluation of Prepaid Group Practice,* 6 INQUIRY, Sept. 1969, at 3; Klarman, *Effect of Prepaid Group Practice on Hospital Use,* 78 PUB. HEALTH REP., Nov. 1963, at 955; Note, *The Role of Prepaid Group Practice in Relieving the Medical Care Crisis,* 84 HARV. L. REV. 887 (1971).

342. The Comprehensive Health Insurance Act of 1974, S. 2970, H.R. 12684, 93d Cong., 2d Sess. (1974); Health Security Act, S. 3, H.R. 22, 23, 93d Cong., 1st Sess. (1973); Health Care Insurance Act of 1973, S. 444, H.R. 2222, 93d Cong., 1st Sess.

tion bill sponsored by Senator Packwood, Representative Schneelie, and Representative Mills; the Health Security Act, sponsored by Senator Kennedy and Representative Griffiths; and the National Health Insurance Program, sponsored by Senator Kennedy and Representative Mills. The last bill, a compromise between the first two bills, has boosted hopes for major action on health insurance in the ninety-third Congress.[343] The effect that each bill would have on the funding of transplant operations and, by analogy, on the funding of purchases of human body parts, illustrates current legislative thought on the proper degree of governmental regulation in the transplant area. In general, the allocation provisions of all three bills are very loose; they would allow an administrative agency to establish extensive regulatory criteria. The original Kennedy bill[344] would establish funding for a complete system of hospital and medical care without a deductible amount requiring contributions from the patient. However, a "Health Security Board," set up in the Department of Health, Education, and Welfare,[345] would have the authority to exclude "from covered services medical or surgical procedures (and services incident thereto) which it finds both (1) are essentially experimental in character, and (2) because of cost or because of shortage of qualified personnel or facilities cannot practicably be furnished on a nationwide basis."[346] This provision would clearly apply to certain transplant procedures, such as heart transplants; however, the extent of the Board's authority to specify classes of individuals to be excluded from participating in specified transplant operations is uncertain. The language suggests that the Board has authority only to accept a given procedure for all patients or to exempt it completely. Another section would allow the Board to allocate funding for each region by classes and subclasses of services.[347] In defining these subclasses, the Board may be empowered to establish criteria for the inclusion of patients within a transplantation program. The section that provides that institutions be paid for "approved" operating costs (section 83) may also allow a significant amount of Board regulation of budgetary allocations by individual medical institutions. As a whole, the basic control structure under the original Kennedy bill

(1973); Catastrophic Health Insurance and Medical Assistance Reform Act, S. 2513, 93d Cong., 1st Sess. (1973); National Health Care Services Reorganization and Financing Act, H.R. 1, 93d Cong., 1st Sess. (1973); National Health Care Act of 1973, S. 1100, H.R. 5200, 93d Cong., 1st Sess. (1973); Comprehensive National Health Insurance Act of 1974, S. 3286, H.R. 13870, 93d Cong., 2d Sess. (1974).

343. *Kennedy-Mills Health Insurance Plan Introduced*, 32 CONGRESSIONAL Q. WEEKLY REP., April 6, 1974, at 892.

344. Health Security Act, S. 3, H.R. 22, 23, 93d Cong., 1st Sess. (1973).

345. Health Security Act, S. 3, H.R. 22, 23, § 121(a), 93d Cong., 1st Sess. (1973).

346. Health Security Act, S. 3, H.R. 22, 23, § 28(e), 93d Cong., 1st Sess. (1973).

347. Health Security Act, S. 3, H.R. 22, 23, § 65, 93d Cong., 1st Sess. (1973).

is administrative, but there is no prohibition of administrative deference to hospital decision-making with regard to the allocation of money for transplantation purposes.

The original Nixon administration proposal,[348] in addition to providing federal assistance for the poor and for Medicare recipients, would require employers to provide standard comprehensive employee benefit plans. The plans must include payment for certain inpatient hospital services, but payment will not be made for "kidney dialysis or transplantation items and services, unless provided by a kidney dialysis center or transplantation center or facility which meets such requirements as the Secretary may by regulation provide . . . ."[349] Some encouragement of price consciousness on the part of the patient is built into the proposal; there is a maximum deductible of 450 dollars per family and a 25 per cent copayment requirement for amounts exceeding 450 dollars.

The compromise bill, the National Health Insurance Program,[350] would establish a program with standard benefits for all citizens except those eligible for Medicare. Transplant centers are required to submit to agency regulation.[351] The 25 per cent copayment feature of the original administration bill is eliminated, except as to drugs, but a 300 dollar maximum deductible per family is included.[352] The cost of a transplant operation will typically be much greater than 300 dollars, so that the patient's incentive for price consciousness was effectively eliminated by the removal of the copayment provision. A degree of prospective budgetary control over medical institutions is also provided.

The most efficient system of resource allocation will probably be a combination of the operation of market forces with inputs from medical and governmental institutions. To the extent that the government is involved, constitutional problems may arise under the fifth and fourteenth amendments. In particular, government definition of groups of patients who are eligible for transfer payments must respect the Supreme Court's decisions on unconstitutional classifications. Classifications on the basis of race,[353] ancestry,[354] or alienage[355]

348. Comprehensive Health Insurance Act, S. 2970, H.R. 12684, 93d Cong., 2d Sess. (1974).

349. Comprehensive Health Insurance Act, S. 2970, H.R. 12684, § 1841(a)(2)(K), 93d Cong., 2d Sess. (1974).

350. Comprehensive National Health Insurance Act of 1974, S. 3286, H.R. 13870, 93d Cong., 2d Sess. (1974).

351. Comprehensive National Health Insurance Act, S. 3286, H.R. 13870, § 2011(a)(2)(K), 93d Cong., 2d Sess. (1974).

352. The deductible amount decreases with family income; a family of four with income under $14,800 pays nothing.

353. *See, e.g.*, McLaughlin v. Florida, 379 U.S. 184 (1964).

354. *See, e.g.*, Oyama v. California, 332 U.S. 633 (1947).

355. *See, e.g.*, Graham v. Richardson, 403 U.S. 365 (1971).

have been held to be "suspect" and thus improper unless justified by a compelling state interest. Nonsuspect classifications must only be rationally related to a permissible statutory purpose.[356] Medical criteria, which would be nonsuspect, should easily meet this test.[357] The classifications would not have to be made with "mathematical precision"[358] and would bear a presumption of validity.[359] Whatever the classification, however, it may run afoul of the recently developed doctrine that a statutory classification cannot impose a conclusive presumption that all individuals of a statutory class possess the characteristics that cause the class to be burdened when certain individuals in the class do not in fact possess those characteristics.[360] For example, patients over a statutory age limit for transplants may contend that their life expectancy is longer than that specified by actuaries' tables and that the use of such tables violates their right to due process. If the courts accept that contention, they may require that individuals be given an opportunity to rebut the presumption.

It is unlikely that legislatures or administrative agencies will restrict the exercise of medical expertise by promulgating highly explicit statutory criteria for the selection of recipients; a good deal of discretion will probably be left to the medical institutions.[361] Arguably, the serious consequences of excluding a patient from treatment require a hearing, self-representation by the patient, and other due process safeguards[362] where federal funds are involved. However, many medical decisions have serious consequences, and

356. *See, e.g.*, McGowan v. Maryland, 366 U.S. 420, 425 (1961).

357. In welfare cases, for example, the Supreme Court has applied the minimum rationality standard, exhibiting extreme deference to the legislative judgment. Jefferson v. Hackney, 406 U.S. 535 (1972) (unequal reductions in federal welfare programs); Richardson v. Belcher, 404 U.S. 78 (1971) (reduction in social security benefits for recipients of workmen's compensation); Dandridge v. Williams, 397 U.S. 471 (1970) (AFDC benefit ceiling based on family size).

358. *See, e.g.*, Dandridge v. Williams, 397 U.S. 471, 485 (1970).

359. *See, e.g.*, Lindsley v. Natural Carbonic Gas Co., 220 U.S. 61, 78-80 (1911).

360. *See generally* Note, *The Conclusive Presumption Doctrine: Equal Process or Due Protection?*, 72 MICH. L. REV. 800 (1974).

361. For example, most states followed the Uniform Anatomical Gift Act's ambivalent death criteria. *See* note 59 *supra* and accompanying text.

The argument of those who oppose any codification of death standards—that it would unduly restrict medical research—applies with equal force to other state restrictions on medical judgment. *See Hearing on Death with Dignity Before the Senate Special Committee on the Aging*, 92d Cong., 2d Sess. 54, 63 (1972) (Statement of H. Beecher); Stason, *The Uniform Anatomical Gift Act*, 23 BUS. LAW. 919, 928 (1968); Sadler, Sadler & Stason, *The Uniform Anatomical Gift Act—A Model for Reform*, 206 J.A.M.A. 2501, 2504 (1968); Note to § 7 of the Uniform Anatomical Gift Act, in HANDBOOK, *supra* note 29, at 192.

362. *Cf.* Goldberg v. Kelly, 397 U.S. 254 (1970) (due process requires notice and hearing prior to termination of welfare payments); Sniadach v. Family Fin. Corp., 395 U.S. 337 (1969) (due process requires a hearing for prejudgment garnishment); Armstrong v. Manzo, 380 U.S. 545 (1965) (notice and hearing required prior to removal of child from parent's custody).

courts, perhaps because of a deference to decisions that require scientific expertise and that are often made in emergencies, have been reluctant to interfere.[363]

V. The Law and the Sale of Body Parts

This section surveys the legal problems encountered in an attempted sale of parts by a living source, in an attempted sale by an individual of his own cadaver parts, and in an attempted sale of cadaver parts by survivors entrusted with the right and duty of burial. In all three situations, the ambiguity of the present law and the threat of legal sanction, if allowed to continue, may discourage sales.

A. *The Living Source as Seller*

The sale of organs from a living source has occasionally been attempted,[364] apparently without giving rise to criminal prosecution. However, the attempted sale or donation of a vital organ would run afoul of state criminal sanctions against suicide.[365] In most states the doctor in such a case would be guilty of murder, even if he acted at the request of the source.[366] The buyer may also be liable for soliciting another to commit suicide or murder.[367]

The sale of a nonvital organ by a living source is not prohibited by any state.[368] Thus, nonvital bodily substances are routinely extracted and sold. For example, approximately one-half of the 8,000,000 units of blood collected in the United States from 1965 to 1967 were obtained by sale.[369] Payment is also routinely made for urine, skin, and samples of other bodily fluids.[370] However, the possi-

363. For example, a physician is not normally liable for damages caused by a bona fide error in judgment if he uses normal care, skill, and knowledge in his diagnosis. *See* Huffman v. Lindquist, 37 Cal. 2d 465, 475, 234 P.2d 34, 40 (1951); Hopper v. McCord, 115 Ga. App. 10, 11, 153 S.E.2d 646, 647 (1967); Willard v. Hutson, 234 Ore. 148, 160, 378 P.2d 966, 972 (1963).

364. *See* Dukeminier, *supra* note 26, at 811.

365. *See, e.g.*, State v. Willis, 255 N.C. 473, 121 S.E.2d 854 (1961). Six states make attempted suicide a crime. *See* Note, *Criminal Law—Attempted Suicide*, 40 N.C. L. Rev. 323, 326 (1962).

366. *Cf.* State v. Fransua, 510 P.2d 106, 107 (N.M. App. 1973); Turner v. State, 119 Tenn. 663, 108 S.W. 1139 (1908).

367. *See* McMahan v. State, 168 Ala. 70, 53 S. 89 (1910); Commonwealth v. Bowen, 13 Mass. 356 (1816). *Cf.* State v. Jones, 86 S.C. 17, 67 S.E. 160 (1910). A number of states treat inducing the suicide of another as a form of manslaughter or as a separate crime, rather than as murder. *See, e.g.*, Conn. Gen. Stat. Ann. § 53a-56 (1958); N.Y. Penal Law § 125.15 (McKinney 1967). *See also* ALI Model Penal Code § 210.5(2) (Proposed Official Draft, 1962).

368. *See* Dukeminier, *supra* note 26, at 850.

369. R. Titmuss, *supra* note 243, at 96.

370. For example, at The University of Michigan medical research laboratories money is offered for various "services." D. E. Cohen pays for sweat for use in his experiment on Plasma-Renin Mineralocorticoid Secretion, Sweat Sodium and Potas-

bility of civil or criminal liability should not be overlooked. A doctor who removes a nonvital organ for sale may be liable for assault and battery,[371] traditionally defined as the unwarranted and unjustifiable infliction of bodily injury or an offensive touching. Consent is generally a defense to an assault and battery action,[372] but it may be ineffective in the transplant context because the "touching" to which the source consents is not for his medical benefit and indeed may cause him serious harm.[373]

Section 2.11 of the American Law Institute's Model Penal Code illustrates the danger that the source's consent may be ineffective:

> (2) *Consent to Bodily Harm.* When conduct is charged to constitute an offense because it causes or threatens bodily harm, consent to such conduct or to the infliction of such harm is a defense if:
>
> (a) the bodily harm consented to or threatened by the conduct consented to is not serious . . . .[374]

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sium Concentration in Normal West African Blacks, American Blacks, and Caucasians. Dr. J. Boorhees offered to buy skin samples for 35 dollars each for his experiments on psoriosis. *See* 24 RESEARCH NEWS, Nov.-Dec. 1973, at 4 (University of Michigan, Office of Research Administration).

371. While the two terms refer to separate legal concepts, in most criminal cases assault and battery exist together, thus the terms have here been meshed into a single concept. *See* Moreland v. State, 125 Ark. 24, 188 S.W. 1 (1916); Kirland v. State, 43 Ind. 146 (1873); State v. Maier, 13 N.J. 235, 99 A.2d 21 (1953). In civil cases the distinction has been more clearly maintained. *See generally* W. PROSSER, *supra* note 100, § 10, at 37-38.

372. *See* Vanactor v. State, 113 Ind. 276, 15 N.E. 341 (1888); Taylor v. State, 214 Md. 156, 133 A.2d 414 (1957); Thibault v. Laumiere, 318 Mass. 72, 60 N.E.2d 349 (1945); Puttkammer, *Consent in Criminal Assault*, 19 ILL. L. REV. 617 (1925).

373. Two other exceptions that vitiate the consent defense should be noted. First, consent is not a defense where the offensive act is prohibited by law. For example, some states hold that actors in mutual combat, because they are breaching the peace, are both criminally liable for assault and battery, *see, e.g.*, Commonwealth v. Collberg, 119 Mass. 350 (1876); *cf.* Champer v. State, 14 Ohio St. 437 (1863), and that one actor can be held liable to the other in a civil suit. *See, e.g.*, Brown v. Patterson, 214 Ala. 351, 108 S. 16 (1926); Morris v. Miller, 83 Neb. 218, 119 N.W. 458 (1909); Colley v. McClendon, 85 Okla. 293, 206 P. 207 (1922). *Contra*, Galbraith v. Fleming, 60 Mich. 403, 407, 27 N.W. 581, 583 (1886). This exception is inapplicable because the removal of an organ for sale by the owner is not clearly prohibited under present law, unless it is considered to be a criminal mayhem, which is unlikely. *See* text accompanying notes 383-89 *infra*.

Second, consent is no defense to sexual assault charges, because the act is a crime against the public generally, not just against the person assaulted. *See* Commonwealth v. Collberg, 119 Mass. 350 (1876); Taylor v. State, 214 Md. 156, 133 A.2d 414 (1957); The King v. Donovan, [1934] 2 K.B. 498 (C.A.). Even if this exception is extended beyond charges of sexual assault to encompass any crime against the public, it is not likely to encompass organ sales. The donation of an organ from a living source has been widely accepted, *see* text accompanying notes 75-76 *supra*, and, in the absence of an express legislative prohibition, the receipt of compensation would not seem to be a modification that would so affect the public sensibilities that the sale should be classified with grievous sexual assaults. *See* Taylor v. State, 214 Md. 156, 133 A.2d 414 (1957).

374. ALI MODEL PENAL CODE § 2.11(2)(a) (Proposed Official Draft, 1962). Under "Simple Assault," the Code notes: "Simple assault is a misdemeanor unless committed in a fight or scuffle entered into by mutual consent, in which case it is a petty misdemeanor." *Id.* § 211.1(1).

Read literally, the Model Penal Code may raise barriers to sales by living sources. It defines "serious bodily injury" as bodily injury that includes "permanent disfigurement, or protracted loss or impairment of the function of any bodily member or organ."[375] This definition would encompass the removal of an organ and would thus remove transplant operations from the protection that consent would afford under section 2.11(2)(a).

However, a doctor may be protected from liability by two other provisions. Section 2.12, "De Minimis Infractions," permits a court to dismiss a prosecution when the defendant's act is "within a customary license or tolerance"[376] or "presents such other extenuations that it cannot reasonably be regarded as envisaged by the legislature in forbidding the offense."[377] The former provision would not be helpful because organ sales are, at present, relatively uncommon. However, the latter provision could be used if, as is likely, it can be demonstrated that the legislature did not intend to reach organ and tissue sales. The doctor may also be protected under section 3.08(4)(a), which exempts a defendant from liability when "[t]he force is used for the purpose of administering a recognized form of treatment which the actor believes to be adapted to promoting the physical or mental health of the patient."[378] However, "treatment" may refer only to the effect on the source. One dictionary defines "to treat" a patient as "to care for" or "to seek [a] cure or relief" for him,[379] and the removal of an organ does not fall within those categories with respect to the source. But the term "treatment" could be read more broadly. Transplant operations are "recognized forms of treatment" when the recipients are considered, and the removal of an organ from the source could be considered one phase of that overall process. The "promotion of health" provision, however, refers only to the health of the "patient." When the "patient" is the seller of an organ, his most obvious benefit is merely financial.[380] But, as demonstrated above,[381] donative transactions have been permitted on the ground that the donor receives spiritual and psychological benefit from his sacrifice, typically to aid a member of his family. That benefit, which may be construed as promoting the patient's "mental health," would arguably also exist where the organ is sold, for another person will still be aided by the seller's decision.[382] The

375. *Id.* § 210.0(3).

376. *Id.* § 2.12(1).

377. *Id.* § 2.12(2).

378. *Id.* § 3.08(4)(a).

379. WEBSTER'S NEW INTERNATIONAL DICTIONARY 2699 (2d ed. 1960).

380. *Cf.* State v. Bass, 255 N.C. 42, 120 S.E.2d 580 (1961) (physician convicted of being an accessory to mayhem for anesthetizing a patient's hand so that the patient could cut off his fingers in order to recover on an insurance policy).

381. *See* section II(B) *supra*; note 389 *infra*.

382. *See* text accompanying note 120 *supra*.

fact that the seller receives a financial reward is merely an additional factor; it need not cancel the spiritual or psychological enjoyment that the source would otherwise receive. In any case, the drafters of the Code apparently did not consider the transplant situation. A legislative modification specifically addressed to the problem would be appropriate.

Another possible legal barrier to organ sales is the crime of mayhem. Where still in force, it may pose problems for the doctor who removes the organ. Mayhem is differently defined by state statutes,[383] but it typically refers to a willful, malicious,[384] and permanent[385] disfigurement or disablement of the body, accompanied by a breaking of the skin.[386] Some cases have rejected consent as a defense to mayhem,[387] but they involved sado-masochistic practices that clearly served no socially useful purpose.[388] The principle should not be extended to organ transplants, which do have significant social benefits.[389]

The case for allowing sales of organs from living sources is weakest where a parent attempts to sell the organ of his child. Courts are solicitous of the child's rights even in donation cases where the

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383. *See, e.g.*, CAL. PENAL CODE § 203 (West 1970) (one who unlawfully and maliciously deprives "a human being of a member of his body, or disables, disfigures, or renders it useless, or cuts or disables the tongue, or puts out an eye, or slits the nose, ear, or lip" is guilty of mayhem). *See generally* 53 AM. JUR. 2d, *Mayhem and Related Offenses* §§ 1-5 (1940).

384. *See, e.g.*, Key v. State, 71 Tex. Crim. 642, 161 S.W. 121 (1913); Bowers v. State, 24 Tex. App. 542, 7 S.W. 247 (1888).

385. *See, e.g.*, State v. Foster, 156 La. 891, 101 S. 255 (1924); State v. Raulie, 40 N.M. 318, 59 P.2d 359 (1936).

386. *See, e.g.*, State v. Gibson, 67 W. Va. 548, 68 S.E. 295 (1910). *See generally* Annot., 58 A.L.R. 1320 (1929).

387. *See, e.g.*, State v. Bass, 255 N.C. 42, 120 S.E.2d 580 (1961); The King v. Donovan, [1943] 2 K.B. 498 (C.A.); 1 E. COKE, INSTITUTES *127b.

388. *See* Dukeminier, *supra* note 26, at 853. *See, e.g.*, State v. Bass, 255 N.C. 42, 120 S.E.2d 580 (1961), discussed in note 380 *supra*. *Cf.* Jessin v. County of Shasta, 274 Cal. App. 737, 747, 79 Cal. Rptr. 359, 365 (1969). The court held that a vasectomy did not constitute mayhem because it had minor effect and was performed with a lack of malice. The commentators had been divided on the question of whether voluntary sterilization constituted mayhem or battery. *See* Note, *Sterilization: A Continuing Controversy*, 1 U. SAN FRAN. L. REV. 159 (1966); Note, *Elective Sterilization*, 113 U. PA. L. REV. 415 (1965).

389. *See* Beecher, *Scarce Resources and Medical Advancement*, 98 DAEDALUS 275, 304 (1969): "Any maiming of a patient should be for his benefit. . . . The donor loses a kidney, but has spiritual gain in his sacrifice"; Schreiner, *Problems of Ethics in Relation to Haemodialysis and Transplantation*, in ETHICS, *supra* note 67, at 126, 130-31 (1966): "Man obviously has the right to maim himself; he can amputate his leg or cut off an infected area if it is for the good of his whole organism. If giving a kidney is for his spiritual or psychiatric good, and this is recognized as part of the total person, . . . the particular mutilation becomes quite permissible under the extension of the principle of physical totality to the totality of a spiritual person." *See also* section IIB *supra*.

recipient is a relative.[390] When donation has been allowed, it has been justified on the ground of the pyschological benefit to the source due to the continued existence of his sibling or on the ground that the benefit to the recipient outweighs the medical risk to the donor, and thus the family as a whole is benefited. Neither rationale is present when a minor's organ is sold to a stranger, and such sales should not be allowed.

B. *The Sale of Cadaver Parts*

The history of cadaver disposition has undoubtedly been greatly influenced by the superstitions that surround the dead body. In England, from the time of the Norman Conquest until the nineteenth century,[391] the right of disposition of a body was solely within ecclesiastical cognizance,[392] perhaps because of the church's concern for the prevention of sacrilege: "The Church took the body to itself. It held that a corpse was appropriated by it, by divine service and consecrated burial. The spirit departed to the realms of the supernatural; the body was held by the divine agent to await resurrection."[393] Others have suggested that the authority to dispose of corpses was a necessary outgrowth of the church's exclusive ownership of burial grounds and its exercise of probate jurisdiction.[394] Whatever the source of their jurisdiction, the ecclesiastical courts handled all controversies respecting interment and disinterment of corpses, including the regulation of the place and type of burial.[395] The common law courts upheld the right of every person—except the felon, the heretic, and the suicide—to be buried without fee in the consecrated ground of his parish churchyard[396] and protected

390. *See* text accompanying notes 83-97 *supra*.

391. By an ordinance of William the Conqueror, the temporal and spiritual jurisdictions were severed and control of churchyards and burials was absorbed by the ecclesiastical authorities. Taylor, *Right of Sepulture*, 53 AM. L. REV. 359, 359 (1919).

392. The term "dead body" is synonymous with the word "corpse," and does not include the remains of a human body that has long since decomposed. *See, e.g.*, Carter v. City of Zanesville, 59 Ohio St. 170, 178, 52 N.E. 126, 127 (1898); 1 R. BURN, ECCLESIASTICAL LAW 261 (9th ed. 1842); 1 R. PHILLIMORE, ECCLESIASTICAL LAW 857 (1873).

393. P. JACKSON, *supra* note 209, at 126.

394. R. BURN, *supra* note 392, at 271; *Law of Burial*, 4 Brad. Surr. App. at 503, 519 (1857) (note taken from the report of Referee Samuel B. Ruggles in *In re Beekman Street* (N.Y. Sup. Ct. 1856)) [hereinafter *Beekman Street* Report].

395. To sense the scope of this jurisdiction consider the following rulings: Traitors who died after sentencing but before execution were still entitled to a Christian burial, 1 R. PHILLIMORE, *supra* note 392, at 856-57; a corpse could be interred within an iron casket but the parish had the right to demand a higher burial fee, Gilbert v. Buzzard & Boyer, 161 Eng. Rep. 1342 (Consist. Ct. 1820); the church controlled the content of the inscription of tombstones, Breeks v. Woolfrey, 163 Eng. Rep. 304 (Arches Ct. 1838).

396. Kemp v. Wickes, 161 Eng. Rep. 1320 (Arches Ct. 1809).

the tangible memorials of the deceased,[397] but they could not affect the "mode of burial" or the disposition and right of control of the body. Thus, although it was larceny to take the winding sheet from a dead body, [398] it was not a felony to steal the body itself.[399] In the latter part of the seventeenth century the common law courts began to assert criminal jurisdiction over religious offenses,[400] but, in deference to the ecclesiastical tribunals, they continued to hold that no civil action in favor of the spouse or the next of kin could be maintained against one who has appropriated or defaced the body.

Lord Coke noted, in 1797, under the title "Of Buildings" in his third Institute, that

> [i]t is to be ob[s]erved, that in every [s]epulcher, that hath a monument, two things are to be con[s]idered, viz. the monument, and the [s]epulture or buriall of the dead. The buriall of the *Cadaver* (that is *caro data vermibus* ["flesh given to worms"] is *nullius in bonis,* and belongs to eccle[s]ia[s]tical cogni[z]ance, but as to the monument, action is given . . . at the common law for defacing thereof.[401]

This quotation has been read as indicating something more than mere deference to ecclesiastical authority. Most English cases, even after the decline of the ecclesiastical courts, once cited Coke approvingly for the proposition that no one has a property right in a dead body.[402] The survivors had no right of replevin for a body taken from them,[403] nor could they maintain a trespass action for an un-

397. *Beekman Street* Report, *supra* note 394, at 519: "The tomb-stone, the armorial escutcheons—even the coat and pennons, and ensigns of honor, whether attached to the church edifice or elsewhere—were raised, as 'heir-looms,' to the dignity of inheritable estates, and descended from heir to heir, who could hold even the parson liable of taking them down or defacing them." *See also* Haynes' Case, 77 Eng. Rep. 1389 (K.B. 1614).

398. Haynes' Case, 77 Eng. Rep. 1389 (K.B. 1614).

399. 4 W. BLACKSTONE, COMMENTARIES *236: "[B]ut stealing the corpse itself, which has no owner (though a matter of great indecency) is no felony . . . ."; 2 E. EAST, PLEAS OF THE CROWN 652 (1806) (Dr. Handyside's case).

400. *See* Taylor's Case, 86 Eng. Rep. 189 (K.B. 1676) (prosecution for uttering blasphemous expressions). In Rex v. Lynn, 100 Eng. Rep. 394 (K.B. 1788), the defendant was convicted of entering a burying ground, taking a coffin from the earth, and dissecting the corpse. The defense had argued that only the ecclesiastical court had jurisdiction: "The Court said that common decency required that the practice should be put a stop to. That the offence was cognizable in a Criminal Court, as being highly indecent, and contra bonos mores; at the bare idea alone of which nature revolted." 100 Eng. Rep. at 395; 4 W. BLACKSTONE, COMMENTARIES 59 n.24 (J. Wendell ed. 1854). (note by W. N. Welsby to 21st London ed. 1844).

401. 3 E. COKE, INSTITUTES *203.

402. *See, e.g.,* Williams v. Williams, 20 Ch. D. 659 (1881); Foster v. Dodd, L.R. 3 Q.B. 67 (1867); The King v. Lynn, 100 Eng. Rep. 394 (K.B. 1788). *But see* The Queen v. Fox, 114 Eng. Rep. 95 (Q.B. 1841).

403. *See Dust to Dust,* 9 SOL. J. 3 (1864). The article notes two cases, one involving the body of a sister who died in a "house of ill-fame at Pimlico," and another involving that of a husband who died in a brothel near Waterloo, where the surviving

authorized mutilation or dissection of the body. Lord Coke's statement has been severely criticized with regard to its etymological interpretation of the word "cadaver"[404] and its lack of historical justification.[405] Its use to support the proposition that no one has property rights in a corpse has also been criticized:

> But even the dictum itself, if closely examined, will not be found to assert, that no individual can have any legal interest in a corpse. It does not at all assert that the corpse, but only that the "buriall" is "nullius in bonis," and this assertion was legally true in England, where it was made, for the peculiar reason above stated—that the temporal office of burial had been brought within the exclusive legal cognizance of the Church, who could and would enforce all necessary rules for the proper sepulture and custody of the body, thus rendering an individual action in that respect unnecessary.[406]

Further doubt is cast on the accuracy of Coke's statement as of the time it was made when it is noted that, until the case of *Jones v. Ashburnham*,[407] a corpse could be arrested by a creditor for a debt due from the deceased.[408] However, Burn, in his treatise on ecclesiastical law, argues that no support for this procedure can be found in the Roman law and that the justification for such an arrest was derived from a misapplication of the technical language of the writ of execution.[409] The writ directs the sheriff to have the "body of the

brother and wife were unable to retrieve the bodies for burial. "The remarkable thing is, that the state of the law respecting dead bodies should give opportunity for the outrage against decency, of withholding thus from the persons whose legal or natural duty it is to provide for their burial. These brothel-keepers and the like would be deterred by fear of the law from avowedly detaining the hat or umbrella of the deceased, or, if they did, the police magistrate would well know how to give redress against them; but when they refuse to give up the body, which in common speech, but not in the language of the law of property, is the body of the deceased, neither the common law nor the statute law affords any direct remedy." *Id.*

404. Referee Samuel B. Ruggles took issue with Coke's construction of the Latin noun *cadaver* from *caro data vermibus* ["flesh given to worms"]: "[W]e may possibly question both the wisdom and the etymology of this verbal conceit, this fantastic and imaginery gift, or outstanding grant to the worms. . . . In Latin, it was a '*cadaver*,' only because it was something fallen (*à cadendo*), even as the remains of fallen cities, in the letter of Sulpicius to Cicero . . . , are denominated '*cadavera oppidorum.*'" *Beekman Street* Report, *supra* note 394, at 520.

405. "In the English jurisprudence, a corpse was not given or granted to the worms, but it was taken and appropriated by the Church." *Beekman Street* Report, *supra* note 394, at 520; Annot., 21 A.L.R.2d 472, 480 (1952): "But while this excursion into etymology brought Coke into ridicule, it seems never to have occurred to anyone that his law might have been as bad as his Latin."

406. *Beekman Street* Report, *supra* note 394, at 521.

407. 102 Eng. Rep. 905 (K.B. 1804).

408. In 1700 the body of the poet Dryden was arrested from his funeral train on the way to burial, and in 1784 the body of Sir Barnard Turner was arrested from a funeral procession for the nonpayment of his debts. Guernsey, *Ownership of a Corpse Before Burial*, 4 Redf. Surr. App. at 527, 532 (N.Y. 1881).

409. R. BURN, *supra* note 392, at 258b.

debtor" at Westminster on the day of payment "in order to satisfy the plaintiff for his debt"[410] and does not specify whether the body need be living. Accordingly, Burn adopts Coke's position that there was never authority in the common law for such an arrest.

Whether Lord Coke declared the law for what it was, whether he fashioned it into what it became, or whether his use of the term *nullius in bonis* was simply misinterpreted is now of little or no consequence. Generations of judges and legal writers have copied and recopied Coke's epigram as authority for the doctrine that there are no property rights in a corpse.[411]

The harsh criticism of the heavy influence that the Coke statement has had on the courts of later years[412] may be unfair. The epigram was probably widely adopted because it suited the sentiment of the times. An accelerating trade in bodies for the purpose of dissection—the "resurrection trade"[413]—had led to grave robbing, which, coupled with the holding of corpses for payment of the decedent's debts, deeply offended the moral sensibilities of the English population.[414] Coke's statement could be used to prohibit the sale of corpses, and the law could thus be adapted to conform to public mores.

Lord Coke did not leave corpses or the rights of the next of kin wholly without protection. At the time he wrote, ecclesiastical courts could and did prevent unwarranted molestation.[415] Even the common law courts, although refusing to recognize private rights in the body, imposed criminal sanctions for certain acts concerning corpses. Interference with another's right to bury a dead body was made a common law crime in the early nineteenth century—not as stealing or damaging property belonging to another, but as an offense against

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410. *Id.*

411. *Beekman Street* Report, *supra* note 394, at 521.

412. "What is amazing is that so many generations of judges were so short on ingeniousness that in telling emotionally convulsed suppliants that disturbance of their loved ones' bones wrought them no injury, they could do no better than to make ipse dixit reference to Coke's nibble by the wayside." Annot., 21 A.L.R.2d 472, 481 (1952).

413. *See* Note, *supra* note 21, at 41.

414. That sensibilities are still easily aroused is evidenced by New York doctors' comments when questioned about their cadaver shortage for teaching. They were very careful to stress that they were not buying bodies but only paying for their transportation from other parts of the country. N.Y. Times, June 25, 1972, § 1, at 1, col. 2 (late city ed.). *Cf.* C. POLSON, R. BRITTAIN & T. MARSHALL, THE DISPOSAL OF THE DEAD 4-5 (1953). *See also* Colbert & Kirtley v. Shepard, 89 Va. 401, 16 S.E. 246 (1892). The court lashed out at real estate agents who undertook to profit from the presence of the grave of Washington's mother on land they were seeking to sell.

415. "The carcase that is burried belongeth to no one, but is subject to ecclesiastical cognizance, if abused or removed." 1 R. BURN, *supra* note 392, at 271a.

public decency.[416] It was also made a crime for a person who had the duty of burial to sell the body for purposes of dissection.[417]

The absence of an ecclesiastical jurisdiction in America left a gap with respect to the law of corpses. Because the American system rejects the spiritual control of temporal affairs, American courts never considered themselves bound by ecclesiastical decisions.[418] Moreover, the English precedents in the area of interments could not have been of much aid even if they had been respected. In England there was ordinarily only one proper place to inter a corpse—the churchyard of the decedent's parish.[419] In the United States, there is more choice as to burial place and method, in part because of the variety of religions practiced by American citizens. The only limits placed on burial procedures are those of decency and sanitation.[420]

The course of American law in this area was set by the report of Referee Samuel B. Ruggles in *In re Beekman Street*.[421] The City of New York, in order to widen a street, condemned part of an eighteenth century burial ground in which one Moses Sherwood had been buried for over half a century. His daughter claimed compensation for the disturbance of her father's remains. Although no English court would have awarded recovery,[422] Ruggles concluded that the daughter should be indemnified for the cost of removing and reinterring the body. Relying in part on his interpretation of Roman law, Ruggles outlined the entire breadth of rights in the area:

> 1. That neither a corpse, nor its burial, is legally subject, in any way, to ecclesiastical cognizance, nor to sacerdotal power of any kind.
>
> 2. That the right to bury a corpse and to preserve its remains, is a legal right, which the courts of law will recognize and protect.
>
> 3. That such a right, in the absence of any testamentary disposition, belongs exclusively to the next of kin.
>
> 4. That the right to protect the remains includes the right to preserve them by separate burial, to select the place of sepulture, and to change it at pleasure.
>
> 5. That if the place of burial be taken for public use, the next

416. *See, e.g.*, The Queen v. Scott, 114 Eng. Rep. 97 (Q.B. 1842); The King v. Lynn, 100 Eng. Rep. 394 (K.B. 1788); 4 W. BLACKSTONE, *supra* note 400, at 65 n.24 (note by W. N. Welsby to 21st London ed. 1844).

417. *See, e.g.*, The King v. Cundrick, 171 Eng. Rep. 900 (K.B. 1822); The King v. Lynn, 100 Eng. Rep. 394 (K.B. 1788).

418. *See, e.g.*, Darey v. Presbyterian Hosp., 202 N.Y. 259, 95 N.E. 695 (1911); Medical College v. Rushing, 1 Ga. App. 468, 57 S.E. 1083 (1907).

419. P. JACKSON, *supra* note 209, at 24. *See* Annot., 21 A.L.R.2d 472, 478 (1952).

420. *See, e.g.*, Wyeth v. Board of Health, 200 Mass. 474, 86 N.E. 925 (1909); Page v. Symonds, 63 N.H. 17 (1883).

421. *See Beekman Street* Report, *supra* note 394; Annot., 21 A.L.R.2d 472, 482 (1952).

422. *See* note 415 *supra*.

> of kin may claim to be indemnified for the expense of removing and suitably reinterring their remains.[423]

Although Ruggles's use of Roman law was questionable,[424] and all but the last point was dictum, his points were adopted by other courts,[425] perhaps because they provided needed flexibility and certainty. The influence of Lord Coke's dictum was still apparent in the fact that Ruggles made no reference to commercial property rights in a dead body, and later cases held that no such "commercial" rights existed.[426]

There has been considerable debate on the proper characterization of the right to burial. Some courts consider it to be a family relational interest—the interest that a close relative has in the treatment of the body of a deceased relative.[427] Other courts hold that it is simply a property right.[428] The most common view is that the right to bury the body has "quasi-property" qualities for limited purposes.[429] The person who possesses the right is not the owner of the body; he holds it in trust for those who may have an interest in its disposition because of family relationship or friendship.[430]

1. *The Sale of One's Own Cadaver Parts*

An individual's right to a "decent" burial is generally recognized.[431] This right, coupled with the right of the public to a sanitary

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423. *Beekman Street* Report, *supra* note 394, at 519.

424. The opinion was sharply criticized for its scholarship in Guernsey, *The Ownership of a Corpse Before Burial*, 10 CENT. L.J. 303, 304 (1880): "He asserted [the right of burial and compensation] in an *obiter* opinion which is full of error of law and fact, and will mislead those who look no further into the subject, in which report he censores Lord Coke and an unbroken line of numerous common law decisions . . . ."

425. *See* cases cited in note 429 *infra*.

426. Weld v. Walker, 130 Mass. 422 (1880); Sacred Heart of Jesus Polish Natl. Catholic Church v. Soklowski, 159 Minn. 331, 199 N.W. 81 (1924); Keyes v. Southern R.R., 147 N.C. 394, 61 S.E. 278 (1908).

427. *See* Douglas v. Stokes, 149 Ky. 506, 149 S.W. 849 (1912); Green, *Relational Interest*, 29 ILL. L. REV. 460, 485 (1934); W. PROSSER, *supra* note 100, § 12, at 58-59:

> In these cases the courts have talked of a somewhat dubious "property right" to the body, usually in the next of kin, which did not exist while the decedent was living, cannot be conveyed, can only be used for the one purpose of burial, and not only has no pecuniary value but is a source of liability for funeral expenses. It seems reasonably obvious that such "property" is something evolved out of thin air to meet the occasion, and that it is in reality the personal feelings of the survivors which are being protected, under a fiction likely to deceive no one but a lawyer.

428. *See, e.g.*, Reniham v. Wright, 125 Ind. 536, 25 N.E. 822 (1890).

429. *See, e.g.*, Donnell v. Sloak, 123 Cal. 285, 55 P. 906 (1899); Pettigrew v. Pettigrew, 207 Pa. 313, 56 A. 878 (1904); Pierce v. Swan Point Cemetery, 10 R.I. 227 (1872).

430. *See, e.g.*, Southern Life & Health Ins. Co. v. Morgan, 21 Ala. App. 5, 105 S. 161, *cert. denied*, 213 Ala. 413, 105 S. 168 (1925); Teasley v. Thompson, 204 Ark. 959, 165 S.W.2d 940 (1942); Pierce v. Swan Point Cemetery, 10 R.I. 227 (1872).

431. Anderson v. Acheson, 132 Iowa 744, 110 N.W. 335 (1907); Holland v. Metalious, 105 N.H. 290, 198 A.2d 654 (1964); Patterson v. Patterson, 59 N.Y. 574 (1875).

and inoffensive disposition of the dead,[432] is enforced by a common law[433] and, in some states, statutory[434] right and duty of specified individuals to bury the dead. The right to a decent burial, however, does not entitle the decedent to specify the manner in which he is to be buried.[435]

Nevertheless, the deceased's preferences may be given great weight as qualifications on the survivors' right to bury the corpse in the same way that that right is qualified by the desires of other friends and family.[436] The limited right of the decedent to determine the disposition of his remains under this theory is a personal right, not a property right.[437] The disposition is thus not included in the probate estate,[438] and the decedent's wishes do not carry the legal weight normally attached to testamentary dispositions.[439] The decedent's directions will normally be honored in court, but they have been defeated by strong objections from close relatives, especially from the surviving spouse.[440]

The Uniform Anatomical Gift Act added new statutory force to an individual's wish to donate his body to a medical school or to another for medical research or transplantation.[441] The gift, if properly made and witnessed, can be revoked only by the donor himself.[442] However, it is not clear that the Act aids the person who seeks remuneration for his organs, for the Act is phrased entirely in terms of gifts.[443] Interpreted literally, it does not reach the sale of body parts.

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432. *See, e.g.*, Memorial Gardens Assn. v. Smith, 16 Ill. 2d 116, 156 N.E.2d 587, *appeal dismissed*, 361 U.S. 31 (1959); *In re* Reinhardt, 202 Misc. 424, 114 N.Y.S.2d 208 (Kings County Surr. Ct. 1952).

433. *See, e.g., In re* Reinhardt, 202 Misc. 424, 114 N.Y.S.2d 208 (Kings County Surr. Ct. 1952); *In re* Kraemer's Estate, 183 Misc. 101, 46 N.Y.S.2d 891 (Bronx County Surr. Ct. 1944).

434. *See, e.g., In re* Cornitius' Estate, 154 Cal. App. 2d 422, 316 P.2d 438 (1957); Phillips v. Home Undertakers, 192 Okla. 597, 138 P.2d 550 (1943).

435. The right is mainly concerned with assuring a sanitary and decent burial and not with the particular mode or manner of burial. *See* Seaton v. Commonwealth, 149 Ky. 498, 149 S.W. 871 (1912).

436. *See* Sacred Heart of Jesus Polish Natl. Catholic Church v. Soklowski, 159 Minn. 331, 199 N.W. 81 (1924). *See generally* Annot., 7 A.L.R.3d 747 (1966).

437. Guerin v. Cassidy, 38 N.J. Super. 454, 119 A.2d 780 (1955). *See also* Fischer's Estate v. Fischer, 1 Ill. App. 2d 528, 117 N.E.2d 855 (1954); Fidelity Union Trust Co. v. Heller, 16 N.J. Super. 285, 84 A.2d 485 (1951).

438. Fischer's Estate v. Fischer, 1 Ill. App. 2d 528, 117 N.E.2d 885 (1954).

439. *See, e.g.*, Fidelity Union Trust Co. v. Heller, 16 N.J. Super. 285, 84 A.2d 485 (1951).

440. *See* Sacred Heart of Jesus Polish Natl. Catholic Church v. Soklowski, 159 Minn. 331, 199 N.W. 81 (1924). *See generally* Annot., 7 A.L.R.3d 747 (1966).

441. *See* text accompanying note 33 *supra*.

442. *See* text accompanying notes 38-42 *supra*.

443. For example, section 2(a) provides that any individual of sound mind and 18 years of age or more may give all or any part of his body for any purposes specified in section 3, the gift to take effect upon death.

E. Blythe Stason, the chairman of the committee that drafted the Act, noted that it was intended neither to encourage nor to prohibit sales: "It is possible, of course, that abuses may occur if payment should customarily be demanded; but every payment is not necessarily unethical . . . . On the other hand drafting a statutory provision to preclude payment will not be easy. Until the matter of payment becomes a problem of some dimensions, the matter should be left to the decency of intelligent human beings."[444] This comment is of little help. Did Stason mean that the Act does not cover any aspect of a transfer for which remuneration was received, thereby leaving the entire transaction to other statutory and common law protections? Or is the Act to govern the effect of the transfer of an organ (that is, its finality and irrevocability) regardless of remuneration, while leaving the enforcement of the remunerative aspect of the contract to other legal propositions?

Only Delaware expressly prohibits remuneration to sources.[445] Arguably, other states would have been more explicit in enacting their versions of the Uniform Act if they wanted to prohibit organ sales. They may have felt that the "gift" language of the Act did not extend to sales,[446] but there is no language that would bar sales. If sales are neither covered nor expressly prohibited, a source can conceivably make a contract to donate his body to a specific individual under the Act and can receive compensation for making that contract. The alternative is that the common law provisions on cadaver disposition govern and the body cannot be sold.

Perhaps an indication of legislative intent can be found in those state statutes—either versions of the Uniform Act[447] or the implied warranty sections of article 2 of the Uniform Commercial Code[448]—that define the transfer of blood and other human tissues, including organs, as services (rather than sales), whether or not any remuneration is paid. These provisions may imply that a sales transaction is

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444. Stason, *supra* note 25, at 928.

445. *See* note 56 *supra.*

446. Six states had expressly prohibited payment for donations under their pre-Uniform Act anatomical donation statutes. Law of Aug. 1, 1968, ch. 429, § 1, [1967] Del. Laws 1773, 1773 (repealed 1970); Law of May 20, 1967, ch. 94, § 1 [1967] Hawaii Laws 91, 91 (repealed 1969); Law of April 24, 1961, ch. 315, § 1, Md. Laws 397, 398 (repealed 1968); Act of June 12, 1967, ch. 353, [1967] Mass. Acts 202, 202 (repealed 1971); Act of April 9, 1963, ch. 293, § 11, [1963] Nev. Stats. 531, 532 (repealed 1969); Law of April 22, 1964, ch. 702, § 1, [1964] N.Y. Laws 1827, 1828 (repealed 1970). Only Delaware added a similar provision to its version of the U.A.G.A. *See* DEL. CODE ANN. tit. 24, § 1783(f) (Supp. 1970). If it can be assumed that these legislatures' opinions on the question of remuneration had not changed, five of the six states believed that the Act's language excluded sales. The Delaware legislature apparently read the language as at least ambiguous.

447. *See* note 488 *infra.*

448. *See* note 488 *infra.*

permitted by state law. If so, the sale of the body or its parts cannot be defeated by the next of kin as it could be at common law.

Even if the transfer cannot be defeated by third parties, however, it is not necessarily enforceable. Under the Uniform Act, donations are revocable at the will of the donor.[449] If the Act extends revocability to organ sales contracts, the contracts may be invalid in light of the basic principle that a contract cannot be revocable at the whim of a party.[450] However, it is the transfer that is revocable under the Act, not the contract. If the transfer is revoked, the contract is breached. The provisions in the Uniform Act simply mean that a revocation would not be a violation of that Act; the breaching party would still be liable for damages under contract law.

A contract to transfer an organ can best be analogized to a contract to make a will. A will is revocable by the testator,[451] yet courts have enforced contracts to make wills in actions for anticipated and actual breach.[452] If the testator writes a will that differs from the will he promised to make (or if he dies intestate) and fails to devise the property in question to the plaintiff, his estate is liable in damages.[453] In some cases a constructive trust in favor of the plaintiff has been imposed upon the beneficiary of the property.[454] The will itself is not invalidated. It is probated, and the property is disposed of under its terms. The contract action is entirely separate.

A contract by the decedent to transfer his body parts could similarly lead to a damage action against his estate if he revokes. Assuming that a market system has alleviated the organ scarcity, a damage recovery should allow the buyer to find a replacement. The courts may allow a suit for specific performance against those who have the right to dispose of the body, but the time constraints imposed by present transplant technology[455] will make the suit useless if the organ was purchased for transplant purposes. However, the courts may entertain an action in equity before the seller's death if there has

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449. *See* text accompanying notes 35-42 *supra*.

450. *See* RESTATEMENT (SECOND) OF CONTRACTS § 79 (1932).

451. *See, e.g.*, Innis v. Michigan Trust Co., 238 Mich. 282, 213 N.W. 85 (1927).

452. As early as 1682 the validity of a contract to leave property at the death of the promisor was accepted without question. *See* Goilmere v. Battison, 23 Eng. Rep. 301 (Ch. 1682). *See also* Roy v. Pos, 183 Cal. 359, 191 P. 542 (1920); Farrington v. Richardson, 153 Fla. 907, 16 S.2d 158 (1944).

453. Ordinarily the measure of damages will be the value of the thing promised. *See, e.g.*, Strakosch v. Connecticut Trust & Safe Deposit Co., 96 Conn. 471, 114 A. 660 (1921).

454. Fred v. Asbury, 105 Ark. 494, 152 S.W. 155 (1912); Keefe v. Keefe, 19 Cal. App. 310, 125 P. 929 (1912). Specific performance will be decreed where the promisee's performance is of such a nature as to make its valuation in money difficult or impossible. *See, e.g.*, Oles v. Wilson, 57 Colo. 246, 141 P. 489 (1914).

455. *See* text accompanying notes 257-75 *supra*.

been an anticipatory breach and no suitable substitute will be available in the market.

If the Uniform Act is held to exclude any transfer accompanied by remuneration, it is unlikely that the courts will enforce the sale by an individual of his cadaver parts because of the established common law rule that a dead body is not property in a "commercial sense."[456] The courts may be very reluctant to modify that rule, for placing a value on the body for sales purposes opens the door to other commercial practices that the public may still find abhorrent, such as holding the body as security for funeral costs.[457]

However, the use of body parts for allografts was not one of the considerations motivating the formulation of the common law doctrine. Rather, the doctrine was motivated and sustained by deference to ecclesiastical control over burial ceremonies[458] and abhorrence of body-snatching for pecuniary motives.[459] With the elimination of ecclesiastical authority and the growth of the transplant science, the doctrine has become outmoded, and its continued use may stifle a valuable method of obtaining needed human parts.

A modification of the doctrine that may provide a useful analogy has already occurred in the autopsy area. Courts have held that an individual may contract with an insurance company for the performance of an autopsy to determine the circumstances of his death.[460] Thus, the individual may, for essentially pecuniary purposes, bestow a right to the possession of his cadaver. However, the insurance contract, unlike the sale contract, does not result in the placing of a direct monetary value on the cadaver; such a valuation flies directly in the face of the doctrine that there are no commercial rights in a dead body.

In any case, the ability of the courts alone to ensure that the sales system is not misused is doubtful, for many of the problems involved are not the subjects of legal expertise. Express legislation allowing the sale of human body parts and detailing the proper operation of the sales system would be preferable to judicial formulation.

2. *The Sale by Those Holding the Right to Burial*

The right and duty of burial ordinarily belongs to the surviving spouse,[461] except in those situations in which the spouses have

456. *See* text accompanying note 426 *supra*.

457. *See* Jefferson County Burial Soc. v. Scott, 218 Ala. 354, 118 S. 644 (1928); Crawford v. Larson, 216 Minn. 417, 13 N.W.2d 137 (1944).

458. *See* text accompanying notes 391-400 *supra*.

459. *See* text accompanying note 413 *supra*.

460. *See, e.g.*, Standard Accident Ins. Co. v. Rossi, 35 F.2d 667 (8th Cir. 1929); Schmiedeke v. Travelers Ins. Co., 30 F. Supp. 640 (N.D. Tex. 1940).

461. *See, e.g.*, Fischer's Estate v. Fischer, 1 Ill. App. 2d 528, 117 N.E.2d 855 (1954);

separated[462] or the right is waived.[463] If the right of burial is not assumed by the spouse it passes to the next of kin, in the order of their relation to the decedent unless there are special circumstances of intimacy or close association.[464] The right of burial includes the power to determine the time, manner, and place of burial,[465] but it is qualified by the interests of the rest of the family and of friends. The right is said to be a sacred trust for the benefit of all who may have an interest in the remains.[466] Interference with the right, by mutilation or withholding of the body, is an actionable wrong,[467] and the violator may be liable for damages.[468]

The Uniform Act adds a new aspect to the rights of the spouse and the next of kin, allowing them to donate the decedent's cadaver for medical research and therapy in the absence of an express objection by the decedent.[469] The Act establishes a priority ranking among the decedent's relatives to determine who can make a final donation decision.[470] Again, for the reasons discussed above,[471] it is

Haney v. Stamper, 277 Ky. 1, 125 S.W.2d 761 (1939); Pulsifer v. Douglass, 94 Me. 556, 48 A. 118 (1901).

462. *See, e.g.*, Feller v. Universal Funeral Chapel, Inc., 124 N.Y.S.2d 546 (Sup. Ct. 1953); *In re* Forrisi, 170 Misc. 649, 10 N.Y.S.2d 888 (Sup. Ct. 1939).

463. *See, e.g.*, Teasly v. Thompson, 204 Ark. 959, 165 S.W.2d 940 (1942); Hackett v. Hackett, 18 R.I. 155, 26 A. 42 (1893).

464. Sheehan v. Commercial Travelers' Mut. Accident Assn., 283 Mass. 543, 186 N.E. 627 (1933); Holland v. Metalious, 105 N.Y. 290, 198 A.2d 654 (1964); Finley v. Atlantic Transp. Co., 220 N.Y. 249, 115 N.E. 715 (1917); Pettigrew v. Pettigrew, 207 Pa. 313, 56 A. 878 (1904); Love v. Aetna Cas. & Sur. Co., 99 S.W.2d 646 (Tex. Civ. App. 1936). Some states specify the order by statute. *See* Enos v. Snyder, 131 Cal. 68, 63 P. 170 (1900); Phillips v. Home Undertakers, 192 Okla. 597, 128 P.2d 550 (1943).

465. *See, e.g.*, Haney v. Stamper, 277 Ky. 1, 125 S.W.2d 761 (1939); Fischer's Estate v. Fischer, 1 Ill. App. 2d 528, 117 N.E.2d 855 (1954).

466. *See, e.g.*, Southern Life & Health Ins. Co. v. Morgan, 21 Ala. App. 5, 105 S. 161, *cert. denied*, 213 Ala. 413, 105 S. 168 (1925).

467. *See, e.g.*, Kyles v. Southern R.R., 147 N.C. 394, 6 S.E. 278 (1908); Finley v. Atlantic Transp. Co., 220 N.Y. 249, 115 N.E. 715 (1917).

468. *See, e.g.*, cases cited in note 467 *supra*. In many jurisdictions, an exception to the usual rule that there can be no recovery for mental suffering or anguish where no physical injury is inflicted and no pecuniary loss sustained permits a person with a right of burial to recover for mental anguish if the interference is willful or in reckless disregard of the right of the relative. *See, e.g.*, Wright v. Hollywood Cemetery Corp., 112 Ga. 884, 38 S.E. 94 (1901); Larson v. Chase, 47 Minn. 307, 50 N.W. 238 (1891). In some cases wantonness or willfulness need not be shown to enable the recovery of damages for mental suffering if the suffering is causally linked to the interference. *See, e.g.*, Coty v. Baughman, 50 S.D. 372, 210 N.W. 348 (1926).

469. *See* text accompanying notes 43-44 *supra*.

470. *See* note 44 *supra*. The Act establishes the following order of priority:

(1) the spouse,
(2) an adult son or daughter,
(3) either parent,
(4) an adult brother or sister,
(5) a guardian of the person of the decedent at the time of his death,
(6) any other person authorized or under obligation to dispose of the body.

UNIFORM ANATOMICAL GIFT ACT § 21(b).

471. *See* text accompanying notes 443-46 *supra*.

not clear whether the individual entitled to donate the body can also sell it. If the Act does permit sales, they should be enforceable. In contrast to contracts made by the decedent donor, contracts by the next of kin are not revocable.

If the Act is held not to apply to sales by relatives, three aspects of the right to burial may create difficulty. First, the right has consistently been narrowly construed to encompass only limited discretion as to time, place, and manner of burial.[472] It is doubtful that courts will allow it to be expanded to enable its possessor to benefit financially, especially in light of the common law maxim that there is no commercial property right in a dead body.[473] Second, the possessor of the right to burial is commonly said to be holding a trust for friends and relatives of the decedent who have an emotional interest in the disposition of the body.[474] If others object to the sale of the decedent's cadaver, the seller's rights as trustee may be successfully defeated.[475] Third, the decedent is entitled to a decent burial,[476] and the attempted sale of his cadaver without statutory authorization may be a violation of that right.

One problem that may have to be faced whether or not the Uniform Act applies is the possible commission of the common law crime of selling a body for the purpose of dissection. It has been held in England and in the United States that an individual charged with the burial of a dead body is criminally liable if he attempts to sell it.[477] However, the most recent American case was apparently decided in 1900,[478] and the present status of the crime is questionable. Even if the crime still exists, most of the previous cases can be

472. *See* Rauhe v. Langeland Memorial Chapel, Inc., 44 Mich. App. 371, 205 N.W.2d 313 (1973).

473. *See* text accompanying note 306 *supra.*

474. "[T]he right to possession and disposition [of a dead body] is in a sense a trust to be exercised for all having affection for the deceased and an interest in seeing the body decently interred." Southern Life & Health Ins. Co. v. Morgan, 21 Ala. App. 5, 10, 105 S. 161, 166, *cert. denied*, 213 Ala. 413, 105 S. 168 (1925). *See also* Teasley v. Thompson, 204 Ark. 959, 962, 165 S.W.2d 940, 942 (1942).

475. For example, the power of a spouse to control the disposition of the decedent's remains has been removed when normal marital relationships were not maintained. *See, e.g.*, Feller v. Universal Funeral Chapel, Inc., 124 N.Y.S. 546 (Sup. Ct. 1953). *See generally* 2 A. SCOTT, THE LAW OF TRUSTS § 107 (3d ed. 1967) (trust law doctrines regarding removal of trustees).

476. *See* text accompanying notes 431, 433-34 *supra.*

477. *E.g.*, Thompson v. State, 105 Tenn. 177, 58 S.W. 213 (1900); The Queen v. Feist, 27 L.J. Mag. Cas. 164 (1858); Young's Case (K.B. 1785), *noted in* Rex v. Lynn, 100 Eng. Rep. 394, 395 (K.B. 1788), and 4 J. WENTWORTH, A COMPLETE SYSTEM OF PLEADING 219-22 (1799).

478. Thompson v. State, 105 Tenn. 177, 58 S.W. 213 (1900). *But cf.* Detroit Free Press, April 13, 1974, at 9-A, col. 5-8, reporting the indictment of four Boston doctors under an obscure Massachusetts law forbidding the carrying away of human bodies or remains for the purpose of dissection. The doctors had been involved in a federally supported experiment seeking to combat infection in the unborn fetus.

distinguished from the sale of bodies for transplant purposes. For the most part, the accused were undertakers, jailors, and others who failed to bury bodies entrusted to them.[479] The cases are tinctured with fraud; the offenders were typically under specific instructions to bury the body. Nevertheless, statutory clarification is necessary if spouses or next of kin are to sell body parts of a decedent without fear of civil or criminal liability.

VI. Other Legal Consequences

A. *Products Liability*

Richard M. Titmuss has charged that the increase in malpractice and negligence suits in the United States is attributable to the "growth of commercial practices in certain sectors of medical care and the increasing application of the laws of the marketplace."[480] The result, he says, is to pass on to the public increased costs resulting from malpractice insurance[481] and defensive medical practices.[482] Titmuss refers specifically to the blood market, but it is clear that he would as fervently deplore the establishment of a market in other human body parts.[483]

This argument has emotive appeal, but it is not persuasive. First, Titmuss's assumptions that an increase in negligence and malpractice claims is harmful and due to the growth of commercial practices are unsupported. Titmuss's fears would be justified if there were some evidence that the increase is due merely to a desire to harass physicians that is facilitated and encouraged by the sales concept, but there is no such evidence. The increase in malpractice litigation may arise instead from an emerging belief that maltreated individuals, and perhaps simply unlucky individuals, should have the cost of their maltreatment or misfortune spread among other patients by means of increased insurance costs that are passed along as increased medical bills, rather than being forced to bear their loss alone. Another possible explanation of the increase is that doctors are performing

479. *See* cases cited in note 477 *supra*.

480. R. Titmuss, *supra* note 243, at 170.

481. *Id.* at 169. A policy in the middle range of coverage for a general surgeon in New York in 1968 cost approximately 1,165 dollars a year, and for general practice the cost was around 350 dollars. High risk surgeons may pay up to 15,000 dollars a year. The cost of insurance rose approximately 50 per cent in 1968. *Id.* at 167.

482. "'. . . [P]hysicians today are practising more legal medicine and probably relying less on their judgment. They order batteries of tests that might not be necessary. They order X-rays that might not be necesary; call for consultations, and only do this to protect themselves.'" *Id.* at 169, *quoting* J. King, American Mutual Liability Insurance Co., A.M.A. News, Nov. 18, 1968.

483. "If blood is considered in theory, in law, and is treated in practice as a trading commodity then ultimately human hearts, kidneys, eyes, and other organs of the body may also come to be treated as commodities to be bought and sold in the marketplace." *Id.* at 158.

inadequately, and a better educated public is increasingly seeking compensation when poor treatment is given.

Moreover, Titmuss's argument[484] that the creation of a market for blood and organs inevitably leads to more malpractice and negligence suits is also questionable. It suggests that under the market system the blood or organ transferred becomes a "product" and thus subject to claims based on warranty, negligence, and tort theories of strict products liability. He argues that under the donative system the transfer of blood is provided as a service.[485] This characterization, he suggests, has two positive effects: Patients are less likely to sue for defects, and, when they do sue, the supplier is liable only for negligence and cannot be reached under theories of product liability or breach of warranty.[486] The weakness of the argument is that purchased blood and organs are as easily classified "services" as donated blood and organs. Damages arising from an injury or death allegedly caused by a purchased blood transfusion have been sought under the Uniform Commercial Code (UCC). The relevant provisions are section 2–314, which establishes an implied warranty of "fitness for the ordinary purposes for which . . . goods are used," and section 2–315, which establishes an implied warranty of fitness for a particular purpose for which the seller knows the goods are bought. The plaintiffs have contended that, because a charge is made for the blood administered, the transfusion constitutes a sale and the implied warranties of article 2 apply. However, in the majority of the cases the courts have refused to apply the warranties on the ground that a blood transfusion is predominantly a service and is thus not reached under article 2, despite the charge for the blood used.[487] In addition, several

484. *See* R. TITMUSS, *supra* note 243, at 158-72.

485. Note, however, the following: "Recent court decisions in the United States, argued Professor Randall, 'have tended to shift more and more of what had previously been considered as "services" into the category of commodity transactions.' This trend, and the activities of lawyers bent on legalizing more and more service relationships, have contributed to dramatic increases in the number and cost of malpractice and negligence suits in the whole field of medical care as well as in the case of blood transfusions." *Id.* at 165.

486. R. TITMUSS, *supra* note 243, at 158-72.

487. Sloneker v. St. Joseph's Hosp., 233 F. Supp. 105 (D.C. Colo. 1964); Whitehurst v. American Natl. Red Cross, 1 Ariz. App. 326, 402 P.2d 584 (1965); Lovett v. Emory Univ., Inc., 116 Ga. App. 277, 156 S.E.2d 923 (1967); Balkowitsch v. Minneapolis War Memorial Blood Bank, Inc., 270 Minn. 151, 132 N.W.2d 805 (1965); Baptista v. St. Barnabas Medical Center, 109 N.J. Super. 217, 262 A.2d 902, *affd.*, 57 N.J. 167, 270 A.2d 409 (1970); Perlmutter v. Beth David Hosp., 308 N.Y. 100, 123 N.E.2d 792 (1954); Goelz v. J. K. & Susie L. Wadley Research Institute & Blood Bank, 350 S.W.2d 573 (Tex. Civ. App. 1961); Dibble v. Dr. W. H. Groves Latter-Day Saints Hosp., 12 Utah 2d 241, 364 P.2d 1085 (1961); Gile v. Kennewick Pub. Hosp. Dist., 48 Wash. 2d 774, 296 P.2d 662 (1956); Koenig v. Milwaukee Blood Center Inc., 123 Wis. 2d 324, 127 N.W.2d 50 (1964). *But see* Cunningham v. MacNeal Memorial Hosp., 47 Ill. 2d 443, 266 N.E.2d 897 (1970) (dictum); Hoffman v. Misericordia Hosp., 439 Pa. 501, 267 A.2d 867 (1970). A few cases recognizing the general inapplicability of the doctrine of implied warranty have carved an exception for blood banks. Community

states have expressly provided that a blood transfusion is to be deemed a service and not a sale.[488]

Damages for death or injury resulting from blood transfusions have also been sought on the basis of strict liability in tort. That concept has been codified in section 402A of the *Second Restatement of Torts*, which provides, in part, that the buyer of "any product in a defective condition unreasonably dangerous to the user or consumer" can recover from the seller for physical damage to his person or property without regard to notice, disclaimer, or the existence of warranty.[489] The courts have split on the applicability of this principle to blood transfusions. To date, three cases have allowed recovery[490] and three have denied recovery.[491] Again, the critical question is whether a transfusion is a sale or a service. The concept of strict liability has not normally been applied to the rendering of professional services,[492] and those cases that have allowed recovery have found that the defendant hospital or blood bank was engaged in a sale.[493] An express statutory determination that blood transfusions are services should thus bar this form of action and actions for breach of warranty.[494]

Blood Bank, Inc. v. Russell, 196 S.2d 115 (Fla. 1967); Hoder v. Sayet, 196 S.2d 205 (Fla. App. 1967); Carter v. Inter-Faith Hosp., 60 Misc. 2d 733, 304 N.Y.2d 97 (1969) (dictum).

488. Some states so provide in their versions of the UCC. Alabama's version is typical:

> Procuring, furnishing, donating, processing, distributing, or using human whole blood, plasma, blood products, blood derivatives, and other human tissues such as corneas, bones or organs for the purpose of injecting, transfusing, or transplanting any of them in the human body is declared for all purposes to be the rendition of a service by every person participating therein and whether any remuneration is paid therefor is declared not to be a sale of such whole blood, plasma, blood products, blood derivatives, or other human tissues.

ALA. CODE tit. 7A, § 2-314(4) (Supp. 1971). *See also* MASS. ANN. LAWS ch. 106, § 2-316 (1965); S.D. COMP. LAWS ANN. § 57-4-33.1 (Supp. 1973). Other states so provide in their versions of the Uniform Anatomical Gift Act. *See, e.g.*, CAL. HEALTH & SAFETY CODE § 7155.6 (West 1970); MISS. CODE ANN. ch. 41, § 41-41-1 (1972).

489. RESTATEMENT (SECOND) OF TORTS § 402A (1965). *See* State *ex rel.* Western Seed Prod. Corp. v. Campbell, 250 Ore. 262, 442 P.2d 215 (1968), *cert. denied*, 393 U.S. 1093 (1969).

490. Cunningham v. MacNeal Memorial Hosp., 47 Ill. 2d 443, 266 N.E.2d 897 (1970); Brody v. Overlook Hosp., 121 N.J. Super. 299, 296 A.2d 668 (1972); Reilly v. King County Cent. Blood Bank, 6 Wash. App. 172, 492 P.2d 246 (1971).

491. McDaniel v. Baptist Memorial Hosp., 469 F.2d 230 (6th Cir. 1972); Balkowitsch v. Minneapolis War Memorial Blood Bank, Inc., 270 Minn. 151, 132 N.W.2d 805 (1965); Baptista v. St. Barnabas Medical Center, 109 N.J. Super. 217, 262 A.2d 902, *aff'd.*, 57 N.J. 167, 270 A.2d 409 (1970).

492. *See, e.g.*, Balkowitsch v. Minneapolis War Memorial Blood Bank, Inc., 270 Minn. 151, 132 N.W.2d 805 (1965); Magrine v. Krasnica, 94 N.J. Super. 228, 227 A.2d 539, *aff'd. sub nom.* Magrine v. Spector, 100 N.J. Super. 223, 241 A.2d 637 (1967). *See generally* Annot., 29 A.L.R.3d 1425 (1970).

493. *See* cases cited in note 490 *supra*.

494. The Sixth Circuit so held in McDaniel v. Baptist Memorial Hosp., 469 F.2d 230 (1973). It is estimated that 25 legislatures have such provisions. *See* Cunningham

In conclusion, a majority of jurisdictions consider blood transfusions to involve a service, rather than a sale of a product,[495] even though there is an open market in blood and even though paying donors provide over fifty per cent[496] of the blood supply in the United States. The same characterization can be applied to human body parts bought and sold in a market.

B. *Tax Consequences*

The five market proposals discussed above[497] have different income and estate tax consequences. The basic question for income tax purposes is whether the proceeds are part of the gross income of the seller or his beneficiaries. Under section 61(a) of the Internal Revenue Code (Code), "except as otherwise provided . . . gross income means all income from whatever source derived, including (but not limited to)" fifteen specified items. Among those items are "compensation for services, including fees, commissions, and similar items" and "gains derived from dealings in property."[498] Section 61 is supplemented by extensive defining Regulations[499] and Code provisions,[500] but the Supreme Court has held that Congress intended to reach all gains except those specifically excluded.[501]

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v. MacNeal Memorial Hosp., 47 Ill. 2d 443, 453, 266 N.E.2d 897, 902 (1970).

A negligence action is available whether the transfusion is determined to be a service or a sale. Mississippi Baptist Hosp. v. Holmes, 214 Miss. 906, 55 S.2d 142 (1951); Necolayff v. Genesee Hosp., 270 App. Div. 648, 61 N.Y.S.2d 832 (1946), *aff'd.*, 296 N.Y. 936, 73 N.E.2d 117 (1947). The standard in a negligence action involving a transplant should be the same as that applied by most courts to other medical practices: The defendant should have exercised that degree of care and skill usually exercised by persons acting in a similar capacity in the same general geographic area. Finley v. United States, 314 F. Supp. 905, 911 (N.D. Ohio 1970); Johnson v. Myers, 118 Ga. App. 773, 774, 165 S.E.2d 739, 742 (1968).

495. The present refusal of many courts to classify blood transfusions as sales is due in part to the inability of present technology to detect hepatitis, the most common defect in transferred blood. *See* Comment, *Serum Hepatitis Through Blood Transfusions: A Wrong Without a Remedy?*, 24 Sw. L.J. 305, 307-08 (1970). The human organ transplant is an even more complicated and risky procedure, because of tissue typing and immunological problems, *see* text accompanying notes 149-65 *supra*, and should be similarly classified. However, the identification of transplants with transfusions should not be rigidly maintained. There is some indication that great gains in hepatitis detection will be made in the near future, Comment, *supra*, at 307-08, in which case the courts may decide that warranty and strict liability theories can be appropriately applied to transfusions. The status of organ transplants should not be simultaneously modified. Transplants should remain subject only to negligence standards until similar technological advances, which significantly improve their predictability, have been made.

496. R. TITMUSS, *supra* note 243, at 96.

497. *See* section V *supra*.

498. INT. REV. CODE OF 1954, § 61(a).

499. Treas. Reg. §§ 1.61-1 to -15 (1957), *as amended* (1974).

500. INT. REV. CODE OF 1954, §§ 71-124 (sections 71-83 primarily list items specifically included in gross income, while sections 101-24 list items specifically excluded from gross income).

501. *See* Commissioner v. Glenshaw Glass Co., 348 U.S. 426, 429-30 (1954); Commissioner v. Wilcox, 327 U.S. 404, 407 (1947).

The easiest case is presented by proposals three and four, which call for a present payment to the seller for an organ to be extracted from either the living seller (under the fourth proposal) or from his cadaver (under the third). The proceeds, all or in part, will be included in the seller's gross income as either "compensation for services" or "gains derived from dealings in property" within the meaning of section 61(a).

However, the calculation of the amount of the proceeds that will be included and the determination of whether that amount is to be taxed as ordinary income or as capital gains are more difficult questions. As in the products liability area, the answers turn on the characterization of the transaction as a service or as a sale of property. The characterization of a blood transfusion, an analogous problem, has left the states divided.[502] Many states have treated the transfer of blood as a service, and recent state legislation tends not to distinguish the sale of blood from the sale of organs.[503] However, the characterization of an interest under state law is not binding for federal tax purposes.[504] There has been one Revenue Ruling on the subject; it denied a charitable deduction on the ground that a blood donation constitutes a personal service, rather than a contribution of property.[505] The ruling may indicate that the Internal Revenue Service (IRS) will classify blood transfusions as services for all tax purposes, but it is not clear whether it will apply this characterization to the transfer of other body parts. There are some significant differences between the two cases; for instance, blood can easily be regenerated, and most body parts cannot.

If the transfer of a human body part for compensation is considered to be a service, the entire amount of the proceeds is included in gross income under section 61(a).[506] Any costs incurred by the taxpayer in making the sale agreement or in the actual removal of the organ should be deductible under section 212 as expenses for the production of income.[507]

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502. *See* text accompanying notes 485-94 *supra.*

503. *See* text accompanying note 488 *supra.*

504. *See* Commissioner v. Estate of Bosch, 387 U.S. 456, 457 (1967) ("Where the federal estate tax liability turns upon the character of a property interest held and transferred by the decedent under state law, federal authorities are not bound by the determination made of such property interest by a state trial court.").

505. Rev. Rul. 162, 1953-2 CUM. BULL. 127.

506. *See* Treas. Reg. § 1.61-2(a)(1) (1957).

507. INT. REV. CODE OF 1954, § 212: "In the case of an individual, there shall be allowed as a deduction all the ordinary and necessary expenses paid or incurred during the taxable year—(1) for the production, or collection of income. . . ." A single sale of an organ or body probably will not qualify as a "trade or business" under section 162(a), which allows deductions for business expenses incurred in connection with a "trade or business." It has been stated that the carrying on of a trade or business requires extensive activity over a substantial period of time during which the taxpayer holds himself out as selling goods or services. McDowell v. Ribicoff, 292 F.2d 174 (3d Cir.), *cert. denied*, 368 U.S. 919 (1961). *See also* Rev. Rul. 58-6, 1958-1

If, instead, such transfers are considered to be sales of property,[508] only a part of the proceeds may be included in gross income; calculation of the amount of that part will be very difficult. Only gains derived from dealings in property, not the entire proceeds, are considered income.[509] The gain is defined as the sum of any money received and the fair market value of any property or services received from the sale, minus the adjusted basis of the property sold.[510] The adjusted basis is typically the initial cost of the property, adjusted upward for any expenditure properly chargeable to capital account and downward for depreciation allowed or allowable as a deduction in computing taxable income.[511] The concept of "basis," however, is more useful for land or machinery than for organs and bodies, where it becomes virtually incalculable. Most likely, the initial cost of a taxpayer's body will be set at zero. Perhaps expenditures for health care,[512] food, clothing, and shelter can be said to be "chargeable to capital account." One author has suggested that the Commissioner and the courts will not reach this conclusion; in support, he points out that section 262 explicitly disallows deductions for personal, living, or family expenses.[513] Such expenditures can also be characterized as repair or maintenance expenses and, therefore, not expenditures for capital improvement.[514] As such, they could not be used to increase the taxpayer's basis of zero,[515] and all of the proceeds from the sale of the taxpayer's body parts would be gain.

If the sale of body parts is construed as a sale of property rather

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CUM. BULL. 322, which provides conditions to be met in qualifying as a trade or business.

508. The common law of cadaver disposition in the United States is typically interpreted to hold that there are no commercial property rights in a dead body. Only a "quasi-right" of burial is vested in the surviving spouse or the next of kin. *See* text accompanying note 426 *supra*. This discussion, therefore, assumes that these common law concepts have been overturned or modified and that the sale of human body parts has been legalized.

509. INT. REV. CODE OF 1954, § 61(a)(3).

510. INT. REV. CODE OF 1954, §§ 1001(a), (b).

511. INT. REV. CODE OF 1954, §§ 1016(a)(1), (2).

512. Specifically, those expenditures not within a taxpayer's current deduction allowances. INT. REV. CODE OF 1954, §§ 213(a), (b).

513. Note, *Tax Consequences of Transfers of Bodily Parts*, 73 COLUM. L. REV. 842, 854-55 (1973). The author recommends enactment of a statute to provide that anatomical parts have zero bases. *Id.* at 865.

514. Treas. Reg. § 1.167(a)-11(d)(2) (1971). *See* Midland Empire Packing Co. v. Commissioner, 14 T.C. 635, 640 (1950), *quoting* Illinois Merchants Trust Co., 4 B.T.A. 103, 106 (1926) ("A repair is an expenditure for the purpose of keeping the property in an ordinarily efficient operating condition. It does not add to the value of the property, nor does it appreciably prolong its life. It merely keeps the property in an operating condition over its probable useful life for the uses for which it was acquired.").

515. *Cf.* INT. REV. CODE OF 1954, § 1016(a)(1). The expenditures are not "properly chargeable to capital account."

than services, the proceeds would be characterized capital gains (gains from the sale of a capital asset, as defined in section 1221)[516] and subject to a lower rate of taxation.[517] Income from services, in contrast, is treated as ordinary income.

The tax issues arising under the first and second proposals are more complicated. Both involve the taxpayer's sale of a right to possession of his organs upon his death, but under the first proposal, the remuneration to be paid to selected beneficiaries is not determined until after death and is dependent upon the actual value of the body at that time. Under the second proposal, the amount is fixed. Again, the characterization of the transfer as a service or as a sale of property may be critical to the tax consequences.

If the service characterization is adopted, the proceeds will probably be considered "income in respect of a decedent." Under section 691(a), income items that qualify for such tax treatment are taxed to the recipient in the year of actual receipt. In order to preserve the tax consequences that would have occurred had the decedent received the income during his life, section 691(a)(3) characterizes the income—for example, as capital gains or ordinary income—by reference to the decedent's status, and section 691(b) gives the beneficiaries a right to the deductions or credits to which the decedent would have been entitled had he lived.

Little guidance is provided by either the Code[518] or the Regulations[519] with regard to what income is properly classified as "income in respect of a decedent." Section 691 is most frequently used in situations involving payment for personal services of the decedent.[520] A common example is the payment to the decedent's estate or survivors of back wages that were not included in decedent's tax return because he used the cash method of reporting.[521] The seller of an organ under the first two proposals has arguably provided a service during his life—the completion of a valid anatomical donation form—for which remuneration is due.[522] Since the rights to

516. INT. REV. CODE OF 1954, § 1221, defines "capital asset" as "property held by the taxpayer" (excluding five classifications of property, none of which is relevant here).

517. INT. REV. CODE OF 1954, §§ 1201-02.

518. *See* INT. REV. CODE OF 1954, § 691.

519. *See* Treas. Reg. § 1.691(a)-1(b) (1957) ("In general, the term 'income in respect of a decedent' refers to those amounts to which a decedent was entitled as gross income but which were not properly includible in computing his taxable income for the taxable year ending with the date of his death or for a previous taxable year under the method of accounting employed by the decedent.").

520. *See* Treas. Reg. § 1.691(a)-2(b), examples (1), (2) (1957); Rev. Rul. 65-217, 1965-2 CUM. BULL. 214, 217.

521. *See* Treas. Reg. § 1.691(a)-2(b), example (1) (1957).

522. A complication could ensue if the laws of the state prohibit present payment for future cadaver sales. Then the decedent would have had not a right to the pay-

that remuneration are held by his beneficiaries, the proceeds are subject to taxation under section 691. Several cases have held that remuneration for services rendered by a decedent, payable to his widow after his death pursuant to a contract between the decedent and his employer, is "income in respect of a decedent" within section 691.[523] The transfer of an organ would seem to be analogous.

If under federal tax law the sale of cadaver parts is determined to be the sale of property, section 691 is not so clearly applicable. Two tests may be gleaned from the court decisions. The first test, which looks to economic activities occurring before death, originated in the Ninth Circuit's decision in *Commissioner v. Linde.*[524] Under that test, if the decedent has taken all the necessary steps to arrange the sale and has left nothing for the beneficiary to do, the income received from the sale is "income in respect of a decedent." Under the second test, adopted by the Fifth and Sixth Circuits,[525] the activities performed by the decedent must actually have given rise to a right to the income:

> Although it is pertinent to inquire whether the income received after death was attributable to activities and economic efforts of the decedent in his lifetime, these activities and efforts must give rise to a right to that income. And the right is to be distinguished from the activity which creates the right. Absent such a right, no matter how great the activities or efforts, there would be no taxable income under § 691.[526]

An example in the Regulations accepts the Ninth Circuit's position.[527]

The individual who contracts to sell his cadaver organs with payment to be made after his death has met the *Linde* test in the sense that he has performed all the activities necessary to finalize the sale, but the seller, prior to his death, may not have the right to income that is required by the second test. Courts using the "right to income" test seem concerned with the certainty of the consummation of the sale transaction and of receipt of the proceeds, rather than on the certainty that the contract has been formulated.[528]

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ment but only the right to name the beneficiaries. For the effect of such a distinction in another area see Teschner v. Commissioner, 38 T.C. 1003 (1962).

523. *See* Collins v. United States, 318 F. Supp. 382 (C.D. Cal. 1970), *aff'd.*, 448 F.2d 787 (9th Cir. 1971); Miller v. United States, 19 Am. Fed. Tax R.2d 830 (W.D. Tex. 1967), *aff'd.*, 389 F.2d 656 (5th Cir. 1958); Bernard v. United States, 215 F. Supp. 256 (S.D.N.Y. 1963).

524. 213 F.2d 1 (9th Cir.), *cert. denied*, 348 U.S. 871 (1954).

525. Keck v. Commissioner, 415 F.2d 531 (6th Cir. 1969); Trust Co. v. Ross, 392 F.2d 694 (5th Cir. 1967), *cert. denied*, 393 U.S. 830 (1968).

526. Trust Co. v. Ross, 392 F.2d 694, 695 (5th Cir. 1967), *cert. denied*, 393 U.S. 830 (1968).

527. *See* Treas. Reg. § 1.691(a)-2(b), example (5)(2) (1957).

528. *See, e.g.*, Keck v. Commissioner, 415 F.2d 531, 534 (6th Cir. 1969); Trust Co. v. Ross, 392 F.2d 694, 696 (5th Cir. 1967), *cert. denied*, 393 U.S. 830 (1968).

Under the first proposal, the amount received depends upon the ultimate condition of the cadaver. The beneficiaries will receive nothing if the body or its parts are not usable. The risk that particular parts will have no value is rather large. For example, it has been estimated that only one in ten cadaver hearts is fit for use.[529] The risk of nonpayment is higher when death occurs relatively far from a medical facility. For these reasons, the beneficiaries' right to receive proceeds under the first proposal may be too uncertain to qualify under the "right to income" test. The second proposal, because of its fixed payment scheme, does not have these difficulties and should meet either test.

If transfers under the first proposal are considered to be sales of property that do not fall within section 691 a very different tax result may be reached. Arguably, the basis of the cadaver should then be stepped up, under section 1014(b)(9), to the amount of its fair market value at the time of the decedent's death. The sale of the cadaver parts at that time, presumably at their market value, would not result in any gain to the estate or to the beneficiaries. To fall within section 1014(b)(9), however, the entire amount of the proceeds must be included in the decedent's gross estate. The crucial test, then, may be the application of the estate tax provisions. Section 2036 dictates that a retained life estate in transferred property subjects the value of that property to the estate tax. A sale under the first proposal is similar to a transfer with a retained life estate in that the seller keeps his organs until his death and the buyer acquires an interest that cannot be exercised until that time.

Another analysis that could be advanced with regard to the first two proposals, whether they are characterized as the provision of a service or the sale of property, is that the contracting seller, in effect, presently realizes the discounted value of the future proceeds and reinvests his present remuneration with the buyer. This analysis may be persuasive if the contract or a statute requires the buyer to set aside funds to ensure payment upon the cadaver's future delivery, and if it is also legal to sell a cadaver for present payment and future delivery (proposal three). Legislative requirements regarding the safekeeping of funds received in prepayment schemes are not unknown. For example, some state statutes require undertakers who contract while the customer is alive to provide burial services to put the payment in escrow or in some other safekeeping arrangement.[530]

529. Kutner, *Due Process of Human Transplants: A Proposal*, 24 U. MIAMI L. REV. 782, 786 (1970).

530. Such statutes often require that money collected on burial insurance contracts be deposited in bank accounts in trust for the benefit of the "policyholders," so that during the insured's life little or none of the funds are available to the contractor for operating expenses or profit. *See, e.g.*, ILL. REV. STAT. ch. 111½, §§ 73.101-.108 (1973); TEX. REV. CIV. STAT. ANN. art. 548b, §§ 1-10a (1959), *as amended*, TEX. REV. CIV. STAT. ANN. art. 548b, §§ 1-10a (Supp. 1972).

If this analysis is accepted, the seller realizes the full amount of the discounted value of the proceeds as income—ordinary income[531] if the sale is characterized as the provision of a service, and capital gain[532] if the body is considered to be property with a zero basis. The buyer, as trustee of the proceeds, could be said to reinvest them in the remainder interest in the body. The beneficiaries, for whom this remainder interest is held, would receive a stepped-up basis for their property interest in the cadaver under section 1014(b)(9); the sale would, consequently, result in no gain, for the basis of the body would equal its fair market value at death. The major requirement of section 1014(b)(9), that the property be included in the decedent's gross estate, would again be satisfied under section 2036.

The fifth proposal would allow the next of kin to sell the body parts of a decedent. If the transfer of the body part is considered to be a service, the entire amount of the proceeds received will be taxed as ordinary income. If the transfer is considered to be a sale of property, sections 1014(a) and (b)(1) may permit the seller to enjoy a stepped-up basis equal to the fair market value of the cadaver parts at death and, therefore, realize little or no gain on the sale. The critical question in this regard is whether the cadaver passes to the seller by descent, so as to permit the cadaver to be considered an "inheritance" within the meaning of section 1014(b). If section 1014 is not applicable the body may have a zero basis, and the entire proceeds will be taxable.

Placing a value on the body by means of a market system may also affect the availability of charitable deductions for anatomical donations. No deduction will be allowed if the provision of human body parts is considered to be a service, for the donation of a service does not qualify for a charitable deduction.[533] But, if a gift of body parts is considered to be a donation of property, contributions to certain specified institutions will qualify for a charitable deduction under section 170,[534] if the donation is an inter vivos gift of a nonvital organ, or as a deduction for estate tax purposes, if it is effective upon the death of the donor.[535]

One commentator has concluded that, if the human body is given an economic value, existing statutes require that that value be in-

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531. INT. REV. CODE OF 1954, § 61(a)(1).

532. INT. REV. CODE OF 1954, §§ 62(3), 1201, 1202.

533. *See* Treas. Reg. § 1.170-2(a)(2) (1958); Rev. Rul. 162, 1953-2 CUM. BULL. 127. Legislation has been introduced that would allow charitable deductions for blood donations. *See* Note, *supra* note 513, at 857-58 n.104, citing H.R. 853, 93d Cong., 1st Sess. (1971). An IRS ruling has specifically disallowed the deductions on the ground that donations are provisions of services. Rev. Rul. 162, 1953-2 CUM. BULL. 127.

534. *See* Note, *supra* note 513, at 857-58.

535. *See* INT. REV. CODE OF 1954, § 2055(a)(2).

cluded in the gross estate of all decedents for estate tax purposes.[536] The consequent need to determine the value of cadavers would, he asserts, require that every cadaver be given an autopsy immediately upon death,[537] a process that would waste medical resources and incur costs in excess of the tax returned. If the transfer of body parts is characterized as a service, the problem should not arise. If no sale or donation is undertaken, no service has been provided, no right to income has accrued, and there is no "property" to include in the gross estate. If the decedent performs the acts necessary to accomplish a proper donation and thus does perform a service, he has created a right to income to be received after his death. The provision concerning income in respect of a decedent would then be applicable,[538] and the proceeds would be included in the gross estate of the decedent for tax purposes.[539] However, the person required to pay income tax on the proceeds could deduct a part of the estate tax attributable to the inclusion of section 691 items in the gross estate of the decedent.[540]

Even if the cadaver is characterized as property, it is arguable that its value cannot be included in the gross estate unless its parts are actually offered for medical use. That is, the body is property in a very limited sense: Under the Uniform Anatomical Gift Act, and, one may assume, under any comparable statute, it may be used solely for medical research, therapy, and transplantation, and consequently it has a value for only those purposes.[541] Where the body is not used for the specific purposes allowed by statute it has no property value and, according to the common law, exists only to be buried by those vested with the right and duty of burial. In other words, the cadaver is given value only by the use to which it is put.

A transfer without remuneration will, under the above analysis, also result in the inclusion of the value of the cadaver in the decedent's gross estate. This increase may be neutralized by a deduction for a charitable donation if the cadaver is given to a charitable organization under section 2055(a)(2) of the Code. If the donation is considered to be a service, its value would not normally be included in the gross estate for estate tax purposes,[542] nor would the donation give rise to a charitable deduction.

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536. Note, *supra* note 513, at 862.

537. *Id.* at 863.

538. *See* text accompanying notes 522-23 *supra*.

539. Rev. Rul. 67-242, 1967-2 CUM. BULL. 227.

540. INT. REV. CODE OF 1954, § 691(c).

541. The Uniform Anatomical Gift Act is specific in the use permitted to be made of cadaver donations. *See* notes 33-34 *supra* and accompanying text.

542. Services cannot be considered "property" within the terms of sections 2031, 2033-35, or 2037 of the Code.

Gift tax consequences may arise where the organ owner donates a nonvital organ during his lifetime.[543] Again, the characterization of the transfer is determinative. The tax would apply if the transfer is deemed a sale of property,[544] but would not apply if it is deemed a service.[545]

New tax legislation may be necessary if a market in organs becomes a reality: It is very unlikely that the drafters of the existing provisions contemplated such a development.

VII. Conclusion

The goal of increasing the supply of human body parts for use in transplantation procedures and research, if accepted as a priority, may be reached by two basic routes. One is the enactment of a statute that either deters or prohibits objections to the removal of the cadaver parts of a recently deceased individual. Examples of this approach are found in the Virginia, Hawaii, and Maryland medical examiner statutes,[546] and in the Dukeminier proposal.[547] The other basic route is the legalization and encouragement of sales of human body parts. The advantage of the market approach lies in its continued reliance on individual consent. The individual's ability to provide for or prohibit the use of his own or his relatives' cadaver parts remains protected, but the incentive to transfer is increased. The importance of retaining individual choice in the emotionally and often religiously charged area of the treatment of bodies may be significant enough to outweigh the convenience provided by statutes that limit ability to withhold consent. It is at least great enough to call for a full investigation of the practical potential of the market system.

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543. *See* Int. Rev. Code of 1954, §§ 2501(a), 2511(a), 2512(b); Note, *supra* note 513, at 859.

544. Int. Rev. Code of 1954, § 2501(a), 2511(a), 2512(b).

545. Int. Rev. Code of 1954, § 2501(a); Rev. Rul. 56-472, 1956-2 Cum. Bull. 21.

546. *See* text accompanying notes 220-28 *supra.*

547. *See* text accompanying notes 230-32 *supra.*